

## Gold Standard for the Global Goals Key Project Information & VPA Design Document (PDD)



**July 2017, Version 1**

### KEY PROJECT INFORMATION

Title of Project:	Title: GS5658 VPA 7: Water is Life, Madagascar GS ID: GS6752
Title of the PoA:	GS5658 "PoA – Climate Finance for Sustainable Development"
Brief description of Project:	The micro-scale voluntary Project Activity (VPA) "Water is Life, Madagascar" is developed by an Italian

	<p>Associazione Mondobimbi Veneto Onlus in collaboration with Carbonsink.</p> <p>The project foresees to provide safe drinking water for the local families living in the surroundings of the city of Tulear, in the Region of Atsimo-Andreafana, Madagascar. The construction of the first safe water systems started in August 2018 and were ready and producing safe drinking water in November 2018.</p> <p>In targeted areas, many families do not have access to safe and clean drinking water and, moreover, long daily journeys are needed to reach the water sources in these semi-desert areas. Many health problems are linked to the use of unsafe drinking water: a high incidence of diseases such as diarrhea, intestinal infections, and parasites. Local people typically use boiling with firewood or charcoal to purify their drinking water. This process results in the release of greenhouse gas emissions from the wood combustion.</p> <p>The project is addressed to supply safe drinking water for domestic use and consequently to improve the hygiene, social, economic and environmental issues related to the water consume. Moreover, verifiable Carbon Dioxide (CO<sub>2</sub>) emission reductions are achieved through the reduced wood/charcoal combustion and the need for water purification through boiling is reduced. The project will also raise awareness among population regarding hygiene and contribute to sustainable development.</p>
Expected Implementation Date:	09/08/2018
Expected duration of Project:	Expected duration of the project is 15 years
Project Developer:	Associazione Mondobimbi Veneto Onlus (Mondobimbi)
Project Representative:	Carbonsink Group S.r.l (Carbonsink)
Project Participants and any communities involved:	N/A
Version of PDD:	02
Date of Version:	15/01/2019
Host Country / Location:	Madagascar
Certification Pathway (Project Certification/Impact Statements & Products)	Impact Statements & Products
Activity Requirements applied: (mark GS4GG if none relevant)	Community Services Activity Requirements (version 1)
Methodologies applied:	Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1
Product Requirements applied:	N/A
Regular/Retroactive:	Regular
SDG Impacts:	<ul style="list-style-type: none"> <li>1 – SDG 13: Climate Action</li> <li>2 – SDG 3: Good Health and Well-being</li> <li>3 – SDG 6: Clean Water and Sanitation</li> <li>4 – SDG 12: Responsible Consumption and Production</li> </ul>
Estimated amount of SDG Impact Certified	SDG 13: Annually 9,646 Verified Emission Reductions (VERs)

## SECTION A. Description of project

### A.1. Purpose and general description of project

#### Purpose of project activity

The micro-scale voluntary Project Activity (VPA) “Water is Life, Madagascar” is developed by an Italian Associazione Mondobimbi Veneto Onlus in collaboration with Carbonsink.

The project activity includes the construction and securing of a network of wells for increase accessibility to safe and clean drinking water for local families living in the surroundings of the city of Tulear located in the Region of Atsimo-Andrefana, in Toliara Province, Madagascar, more precisely in the villages of Betsingilo and Ambolofoty. The construction of the safe water systems is started in August 2018 and were ready and producing safe drinking water in November 2018.

In targeted areas, many families do not have access to safe and clean drinking water and, moreover, long daily journeys are needed to reach the water sources in these semi-desert areas. Many health problems are linked to the use of unsafe drinking water: a high incidence of diseases such as diarrhea, intestinal infections, and parasites. Local people typically use boiling with firewood or charcoal to purify their drinking water. This process results in the release of greenhouse gas emissions from the wood combustion.

The project is addressed to supply safe drinking water for domestic use and consequently to improve the hygiene, social, economic and environmental issues related to the water consume. Moreover, verifiable Carbon Dioxide (CO<sub>2</sub>) emission reductions are achieved through the reduced wood/charcoal combustion and the need for water purification through boiling is reduced. The project will also raise awareness among population regarding hygiene and contribute to sustainable development.

#### Technology of project activity

The project activity includes the excavation of water supply systems which will be equipped with manual pumps to extract the water from the boreholes. The fences will be constructed around each borehole for protection purposes. (Imagine A-1). Total five boreholes are included in this VPA.



Imagine A-1. Example of project scenario

## A.2. Eligibility of the project under approved PoA

**Table. A-1. Demonstration how the VPA meets the eligibility criteria as defined in approved PoA**

No.	Eligibility criteria		Means of proof	Confirmation
	Description	Conditions to be met		
1.	Scale of the activity	The annual emission reductions achieved by the VPA are limited to a maximum of 10,000 tons of CO <sub>2</sub> e, in each and every year of the crediting period. Whenever actual emission reductions as per the verification report exceed the upper threshold for a given registered project, the project can still request for issuance, but the claimable emission reductions are capped at 10,000 tonnes of CO <sub>2</sub> per year.	The annual ex-ante emission reductions are maximum of 10,000 tons of CO <sub>2</sub> e in any year of the crediting period as described in the Section B.6.5. of this VPA-DD. In case the VPA is found to exceed the applicable limit during any verification, the claimable emission reductions shall be capped at 10,000 CO <sub>2</sub> per year.	✓
2.	Type of activity, scope and used technology	The VPA is a Community Service Activity (end-use energy efficiency project) which provides or improves access to clean water.	The VPA provides access to clean water for household being thus a Community Service WASH activity. In more details, the VPA includes the excavation of water supply systems which will be equipped with manual pumps to extract the water from the boreholes.	✓
3.	Target group and distribution mechanism	The target group of the activity can be households, SMEs, institutions and/or communities boiling water with non-renewable biomass or fossil fuels and/or lacking access to safe water. The distribution of the project technologies needs to be recorded via an accurate and complete sales/dissemination/installation record.	The target group of the activity are the households living in the project area currently boiling water with non-renewable biomass or lacking access to safe water.  Each installed water supply system will be recorded in the project database together with the GPS coordinates as described in Section B.7.3 of this VPA-DD.	✓
4.	Host country, boundary and location	The VPA is located within the host parties listed in section A.4.1.1. of the PoA-DD.	VPA is located in Madagascar which is one of the Host parties of the PoA.  The detailed VPA location is described in Section A.4.4 of this VPA-DD.	✓
5.	Crediting period duration	The duration of the crediting period of the VPA doesn't exceed the end date of the registered PoA or shall be capped by the end date of the PoA. The final date for which ERs can be credited shall be no later	The start date of the crediting period of this VPA is	✓

		than 20 years after the start date of the PoA.	18/11/2018 <sup>1</sup> and, thereafter, the duration of the crediting period will not exceed the end date of the registered PoA (i.e. 03/08/2036).	
6.	Financial Additionality & Ongoing Financial Need	All VPAs are micro-scale projects and can thus be considered as deemed additional in line with the paragraph 2.5.2 of the Community Services Activity Requirements (Version 1). The Financial Additionality is not required to be proven at the time of Design Certification. Either there is no need to demonstrate the ongoing financial need at Certification Renewal.	This is a micro-scale VPA and can thus be considered as deemed additional as demonstrated in section B.5 of this VPA-DD.	✓
7.	Conditions to check the start date of the VPA through documentary evidence	The start date of an activity being defined as the earliest date on which the Project Developer has committed to expenditures related to the implementation of the Project will be defined for each activity. Examples of start date may be the date on which contracts have been signed for equipment or construction/operation services required for the Project.	The start date of the activity is 09/08/2018 i.e. the date when the construction of the first safe water system in Tulear city, area started <sup>2</sup> .	✓
8.	Regular and retroactive project activities	Regular VPAs (Projects where the Stakeholder Consultation meeting has taken place prior to the Project Start Date) submit the required documents to GS (time of first submission) within three months of the event (though this date may be after the Project Start Date).  Retroactive VPAs (with a start date before or after the time of first submission of PoA) submit the required documents to GS (time of first submission) within one year of its start date.	This VPA is a regular project activity since the stakeholder consultation meeting took place on 16/07/2018 (which is prior to Project Start Date 09/08/2018) and since the Stakeholder Consultation Report was submitted to GS by 16/10/2018 i.e. with 3 months from the meeting date.	✓
9.	Stakeholder inclusivity	VPAs shall identify and engage relevant stakeholders and seek expert stakeholder input where necessary in the design planning and implementation.	The Section E of this VPA-DD includes the demonstration that the stakeholder consultation process was conducted in line with the Gold Standard requirements. The SFR will be	✓

<sup>1</sup> This is the date when the all the water systems included in this VPA were ready and producing safe water. The start date of crediting period is set as the following date after concluding the construction works. . Supporting documents will be provided for the project Project Design Certification stage.

<sup>2</sup> Documents proofing the start of the construction works will be uploaded to GS registry at Project Design Certification stage

		<p>The activity level stakeholder consultation is carried out, either for a single VPA or for a group of VPAs in a two-step process, i.e. the Stakeholder Consultation meeting and Stakeholder Feedback Round (SFR) in line with the Gold Standard “Stakeholder Procedure, Requirements &amp; Guidelines (version 1)” and “Community Service Activity Requirements (version 1)”.</p> <p>In case of a grouped stakeholder consultation, the following conditions need to be fulfilled:  i) same host country,  ii) same technology  iii) similar distribution mechanism shall be employed.  VPAs implementation shall start within 3 years from the date of grouped stakeholder consultation approval.</p>	<p>finalized prior to Design Certification.</p> <p>The same live meeting can be applied for the future VPAs when the following conditions are fulfilled: 1) The VPA is implemented in the surroundings of the city of Tulear in Atsimo-Andraafana Region, Madagascar, 2) The VPA includes the installation of ‘zero emission’ water supply system/systems 3) The VPA is implemented by Associazione Mondobimbi Veneto Onlus, and 4) The VPA implementation start date is within 3 years from the date of grouped stakeholder consultation approval.</p>	
10.	Baseline and Monitoring Methodology	<p>The VPA applies the following GS methodology:  Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1.</p>	<p>The VPA applies the GS methodology “Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1”. The applicability of the methodology is demonstrated in Section B.2 and the defined Baseline and Project Scenarios in Section B.4 and B.6 of this VPA-DD respectively.</p>	✓
11.	Conditions related to environmental impact analysis	<p>The VPA has to fulfill host country requirements concerning environmental impact analysis.</p>	<p>N/A. The legislation of Madagascar (Mise en Compatibilité des Investissements avec l’Environnement)<sup>3</sup> doesn’t require environmental impact analysis for activities as the project activity to be made.</p>	✓
12.	Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of ODA	<p>In case that any of the VPA receives ODA, it is ensured that there is no diversion of ODA, i.e. that no ODA is provided under the condition that all or part of the carbon credits have to be returned to the donor country/entity providing ODA.</p>	<p>The VPA has a signed ODA declaration confirming that there is no diversion of ODA as described in Section A.7 of this VPA-DD.</p>	✓

<sup>3</sup> See Article 4 and Annex I of the “Décret MECIE – 2004” uploaded to GS registry

13.	Credit ownership	<p>The transfer of credit ownership all along the investment chain is clearly described and communicated to all project participants and proofed that end-users are aware of and willing to give up their rights on emission reductions.</p> <p>For technology producers and the retailers of the improved technology or the renewable fuel in use, this must be communicated by contract or clear written assertions in the transaction paperwork. The end-users will need to be informed and notified that they cannot claim for emission reductions from the project. This can be proofed for example with the waiver forms signed by end-users.</p>	<p>The transfer of credit ownership from end-users to the project developer is proofed with a written assertions signed by a relevant re-representative.<sup>4</sup></p> <p>Moreover, the credit ownership was also discussed during the stakeholder meeting and mentioned in the Project Summary provided to stakeholders.</p>	✓
14.	Avoiding double counting	<p>The VPA applies an identification system enabling unique identifying of each unit (sold, installed or constructed) or its users so that the double counting of emission reductions can be avoided.</p> <p>The VPA will also shows that it is exclusive to the PoA and not registered as a standalone project activity or as part of another PoA.</p>	<p>The avoiding of the double counting is confirmed in two ways:</p> <ul style="list-style-type: none"> <li>- The relevant online carbon registries have been consulted to confirm that the proposed activity is neither registered as a standalone project activity or as a part of a PoA with GS or other carbon standard.</li> <li>- Each project water system will be identified with unique gps coordinates of its location which enables the unique identification of the borehole to be part of this VPA.</li> </ul>	✓
15.	Conditions related to sampling requirements for the PoA	<p>The VPA complies with the sampling plan as outlined in PoA-DD, section B.3 and VPA-DD, section B.6.1.</p>	<p>The VPA-DD outlines the sampling plan in section B.7.2 which is in line with the one stipulated in the PoA-DD.</p>	✓

### A.3. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project

Associazione Mondobimbi Veneto Onlus has full and uncosted legal ownership of the Verified Emission Reductions (VERs) that are generated under Gold Standard Certification.

<sup>4</sup> The Carbon Rights Assertion will be uploaded to GS registry at the Project Design Certification stage

# Gold Standard®

Before starting the inclusion process of this VPA in to the PoA, a legally-binding contractual agreement between CME (Carbonsink) and the VPA owner (Associazione Mondobimbi Veneto Onlus) has been made. As part of this agreement, the ownership and selling rights of the emission reductions resulting from the project activity are clearly defined.

The transfer of credit ownership from end-users to the project developer are proven with a written assertions signed by the local representatives on behalf of the communities in which the safe water systems are situated<sup>5</sup>.

## A.4. Location of project

### A.4.1. Host Country

The Republic of Madagascar

### A.4.2. Region/State/Province etc.

Atsimo-Andreafana Region, in Province of Toliara

### A.4.3. City/Town/Community etc.

Villages of Betsingilo and Ambolofoty in the district of Tulear

### A.4.4. Physical/Geographical location

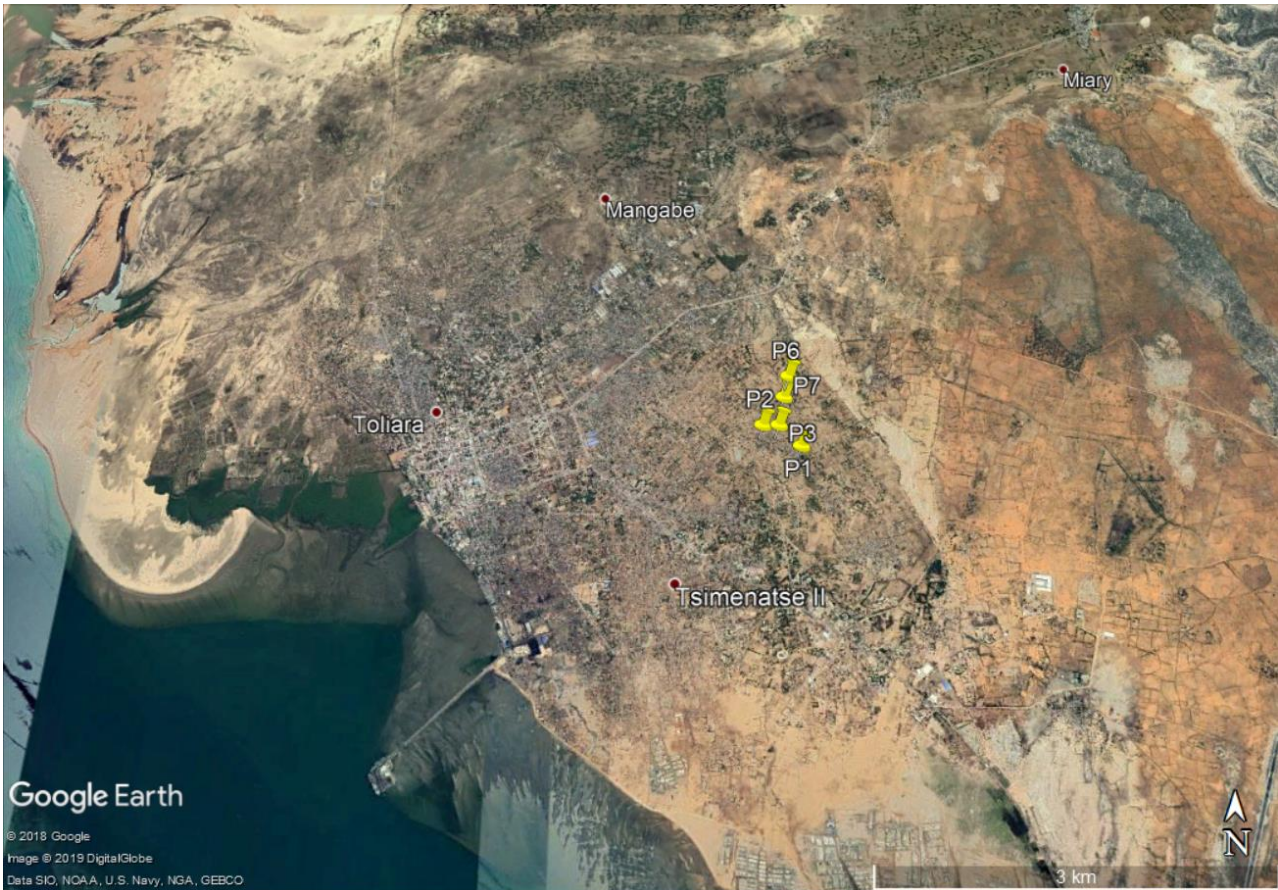
The GPS coordinates of the project water systems are:

Project water system	GPS Coordinates	
Betsingilo P1	23°21'13.76"S	43°41'49.21"E
Betsingolo P2	23°21'7.27"S	43°41'37.90"E
Betsingilo P3	23°21'7.28"S	43°41'42.80"E
Ambolofoty P6	23°20'51.70"S	43°41'46.56"E
Ambolofoty P7	23°20'58.45"S	43°41'44.73"E

---

<sup>5</sup> The Carbon Rights Assertion will be uploaded to GS registry at the Project Design Certification stage





Imagine A-2. The location of the Project Water Systems.

## A.5. Technologies and/or measures

The project activity includes the excavation of water supply systems which will be equipped with manual pumps to extract the water from the boreholes. The fences will be constructed around each borehole for protection purposes. (Imagine A-1)

### Contribution to sustainable development

In the project area most water supply takes currently place from unsafe sources. Local people typically use wood fuel or charcoal on inefficient stoves to purify their drinking water. This process results in the release of greenhouse gas (GHG) emissions from the combustion of wood/charcoal.

Thanks to the use of project activity, safe drinking water will be provided to the communities so that local use of boiling methods for water purification will be reduced and consequently GHG emissions will be reduced. Moreover, the concept of suppressed demand is applied in cases where inadequate safe water is not available and where treatment is not practiced for example because the society member cannot afford to use biomass energy to treat their water due to costs issues.

Besides reducing GHG emission in line with the UN's Sustainable Development Goal (SDG) number 13, this VPA will contribute also to the following other Sustainable Development Goals:

- SDG 6: ensuring easy access to clean and safe water to families
- SDG 3: reducing adverse health effects related to water-borne diseases associated with unsafe water usage and related to harmful gases during combustion of firewood for boiling water.
- SDG 12: raising awareness among population for sustainable development including, themes like hygiene.

## **A.6. Scale of the project**

The VPA is a micro-scale project. In line with section 1.2.3 of the Community Services Activity Requirements the micro-scale projects are defined as projects issuing emission reductions less than or equal to 10,000 tons of CO<sub>2</sub>eq per year.

## **A.7. Funding sources of project**

The VPA is funded by private sources of the Project Owner and its partners. No public funding sources are used and there are neither official development assistance (ODA) funding for this project activity. Please see the signed ODA declaration uploaded to GS Registry.

## SECTION B. Application of selected approved Gold Standard methodology

### B.1. Reference of approved methodology

Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), Version 3.1. - Published August 2017.<sup>6</sup>

### B.2. Applicability of methodology

The choice of the selected methodology is justified by demonstrating in (see the below table) that the project meets each applicability condition of the applied methodology.

Table B-1. Applicability of the TPDDTEC methodology

Methodology applicability requirement	Justification regarding this VPA	Confirmation
This methodology is applicable to programs or activities introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households and non-domestic premises. The project technologies/practices must introduce 'zero emission technology' for safe water, instead of boiling water as a purification technique.	This VPA includes construction of 'zero emission' safe water supply systems which will reduce GHG emissions by removing the need to boil water as a form of purification before consumption. The targeted end-users are households which would use non-renewable biomass to boil water as a form of purification or are lacking the access to safe drinking water (suppressed demand) in the absence of this VPA.	✓
The project activity is implemented by a project proponent and can include additional project participants. The individual households and institutions do not act as project participants.	The project activity is implemented by Associazione Mondobimbi Veneto Onlus, who is the Project Proponent of this VPA, in collaboration with Carbonsink. The individual households and institutions will not act as project participants.	✓
The project boundary needs to be clearly identified, and the technologies counted in the project are not included in another voluntary market or CDM project activity (i.e. no double counting takes place). In some cases there maybe another similar activity within the same target area. Project proponents must therefore have a survey mechanism in place together with appropriate mitigation measures so as to prevent any possibility of double counting.	The VPA is implemented in Madagascar which is the host country of the PoA as stated in the section A.3 of the PoA-DD. The detailed VPA location is described the Section A.4.4 of this VPA-DD.  The unique identification of each new water system will be made recording the GPS coordinates of their location as outlined in Section B.7.3 of this VPA-DD.  Moreover, the relevant online carbon registries has been checked to confirm that there are no risks for double counting.	✓
Technologies each have a continuous useful energy output of less than 150kW per unit (defines as total energy delivered usefully from start to end of operation of a unit divided by time of operation). For technologies or practices that do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the	The safe water supply technologies included in this VPA will not deliver any thermal energy in the project scenario but only seek to displace the use of non-renewable biomass used for boiling water in the baseline scenario and to provide the safe water for consumers without access to safe drinking water (suppressed demand).	✓

<sup>6</sup> Available at Gold Standard website: <https://www.goldstandard.org/project-developers/standard-documents> (Site visited 03/04/2018)

# Gold Standard<sup>®</sup>

<p>baseline scenario, the 150kW threshold applies to the displaced baseline technology.</p>	<p>The useful energy output per single unit in the baseline scenario is less than 150kW. This has been demonstrated with the calculations (see tab 'Energy output'/ER calculation spreadsheet)<sup>7</sup>.</p>	
<p>The use of baseline technology as backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology (e.g. discounted price for the improved technology) and the definitive discontinuity of its use.</p> <p>The project documentation must provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology. For example, whether the existing baseline technology is not surrendered at the time of the introduction of the improved technology, or whether a new baseline technology is acquired and put to use by targeted end users during the project crediting period. The success of the mechanism put into place must therefore be monitored and the approach must be adjusted if proven unsuccessful. If an old technology remains in use in parallel with the improved technology, the corresponding emissions must be accounted for as part of the project emissions.</p>	<p>Hygiene campaigns including the education of local people on the extensive health and environmental benefits (see section B.7.3 of the VPA-DD) of using safe water supply sources will encourage the removal of the old technology. The success of this mechanism will be monitored and adjusted if proven unsuccessful.</p> <p>The ratio of end-user that are still boiling drinking water in the project scenario will be monitored (via Water Consumption Field Test as described in Section B.7.3 of this VPA-DD) and accounted for to calculate the fuel consumption and the corresponding project emissions.</p>	<p>✓</p>
<p>The project proponent must clearly communicate to all project participants the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. For technology producers and the retailers of the improved technology or the renewable fuel in the project situation, this must be communicated by contract or clear written assertions in the transaction paperwork. If the claimants are not the project technology end-users, the end-users should be informed and notified that they cannot claim for emission reductions from the project.</p> <p>For example, leaflets distributed with the products alerting the end-users to the waiving of their carbon rights in exchange for pricing or the improved technology, which discounts its true cost (waivers forms signed by end-users are another example).</p>	<p>Before starting the inclusion process of this VPA in to the PoA, a legally-binding contractual agreement between the PoA CME (Carbonsink) and the VPA developer (Mondobimbi) has been made. As part of this agreement, the ownership and selling rights of the emission reductions resulting from the project activity are clearly defined.</p> <p>The transfer of credit ownership from end-users to the project developer will be proofed with a written assertions signed by the local representatives on behalf of the communities<sup>8</sup>. Moreover, the end-users were informed about the transfer of carbon credit ownership during the stakeholder consultation process.</p>	<p>✓</p>

<sup>7</sup> The ex-ante ER calculations will be provided at Project Design Certification stage

<sup>8</sup>The Carbon Transfer Assertion template will be uploaded to GS registry at Project Design Certification stage

Project activities making use of a new biomass feedstock in the project situation (e.g. shift from non-renewable to green charcoal, plant oil or renewable biomass briquettes) must comply with relevant Gold standard specific requirements for biomass related project activities, as defined in the latest version of the Gold standard rules <sup>9</sup> .	No new biomass feedstock will be used in the project situation and therefore this condition is not applicable.	N/A
The water in its improved form should be available within 1 km walking/pedaling distance from the households.	The households included in this VPA are located within the 1 km walking/pedaling distance from the safe water supply source (see Section B.7.3 of this VPA for further details).	✓

### B.3. Project boundary

The project boundary is the physical, geographical sites of the project technologies, in other words, the physical location of the project boreholes (as described in Section A.5. above) and the location of the families consuming the water provided by these system within 1 km radius of each system as shown in the below flow diagram.

*The flow chart will be added here at Project Design Certification stage.*

The sources and gases included in the project boundary are described in the below table.

**For the purpose of GHG mitigation/sequestration following table shall be completed**

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Heat delivery	CO <sub>2</sub>	Yes	Important source of emissions as CO <sub>2</sub> is emitted any time biomass or fossil fuels are burned.
		CH <sub>4</sub>	Yes	Important source of emissions released during partial or incomplete combustion of biomass during water boiling.
		N <sub>2</sub> O	Yes	Important source of emissions released during partial or incomplete combustion of biomass during water boiling.
Project scenario	Heat delivery	CO <sub>2</sub>	Yes	Important source of emissions as CO <sub>2</sub> is emitted any time biomass is burned.
		CH <sub>4</sub>	Yes	Important source of emissions released during partial or incomplete combustion of biomass during water boiling.
		N <sub>2</sub> O	Yes	Important source of emissions released during partial or incomplete combustion of biomass during water boiling.

### B.4. Establishment and description of baseline scenario

According to the applied TPDDTEC methodology, the baseline scenario is the existing practice of boiling water using high emission fuels including non-renewable biomass and fossil fuels to treat it for consumption within in the population that is targeted for adoption of the project technology. Suppressed demand can be applied in instances where inadequate safe water is available or where treatment is not practiced. Only end users that boil water or are currently using unsafe water (or are under suppressed demand situation) are eligible for crediting.

A project activity may have multiple baseline scenarios that are applicable in relation to the different project technologies in the project activity depending on local fuel and technology use patterns. Furthermore, additional

<sup>9</sup> Gold Standard version 2.2. Toolkit, Annex C, and rule updates released prior to the time of first submission of the project activity to the Gold Standard.

# Gold Standard®

baseline scenarios can be added to a project activity at any time during the crediting period through a design change as per Gold Standard rules or alternatively, adjustment factors can be applied to existing baseline scenario to account for less significant variability in fuel consumption or technology, without the need to create a new baseline scenario.

The following baseline studies has been made at VPA-level:

## A. Baseline Non-Renewable Biomass (NRB) assessment, if biomass is one of the baseline fuels

As the biomass is the baseline fuel of the VPA, the fractional non-renewability of biomass needs to be established. The national default value provided by the CDM Executive Board and endorsed by the DNA of the host country Madagascar<sup>10</sup> is used in this VPA.

Country	Default Value of of fNRB <sup>11</sup>
Madagascar	0.72 <sup>12</sup>

## B. Target population characteristics

The baseline survey has been made with in person interviews with a robust sample of targeted end-users without project technologies that are representative of end-users targeted in the project activity. The baseline survey was made to provide information on target population characteristics, baseline technology use, fuel consumption, leakage and sustainable development indicators. Moreover, it is used for determining the baseline access to safe drinking water and the suppressed demand situation in the project area. The baseline report described gives full details of the implemented baseline studies and the results<sup>13</sup>.

The survey was carried out following the below guidelines for minimum sample size and was tailored to gather the following data:

### **Sample sizing**

- Group size > 1000: Minimum sample size 100

### **Data collected<sup>14</sup>**

- Address or location and telephone number (mobile or landline where possible)
- The number of people served by the baseline technology and typical usage patterns and tasks (e.g. commercial, institutional, domestic, etc.)
- Types of baseline technologies used and estimated frequency
- Types of fuels used and estimated quantities
- Seasonal variations in baseline technology and fuel use
- Sources of fuels (purchased or hand-collected, etc.) and prices paid or effort made (e.g. walking distances, persons collecting, opportunity costs)
- Sources for water supply, effort made and seasonal variations
- Indicators of suppressed demand (e.g. reasons for not purifying, eventual barriers, preferred purification methods in case the barriers would not exist)

<sup>10</sup> <http://cdm.unfccc.int/DNA/fNRB/index.html> (Site visited 05/04/2018)

<sup>11</sup> <http://cdm.unfccc.int/DNA/fNRB/index.html> (Site visited 09/07/2018).

<sup>12</sup> In case CDM/DNA updates on this value, PP may continue to use the registered value by demonstrating it's to be a conservative approach. Otherwise, PP shall use an updated value.

<sup>13</sup> Baseline Survey Report will be uploaded to GS Registry at Project Design Certification stage

<sup>14</sup> Questions about end-user characteristics and baseline technology and fuels should be treated as specific to safe water supply and boiling

- Renewability and non-renewability indicators as required by Annex 1 of the applied methodology

## C. Baseline Water Boiling Test

The baseline water boiling test (BWBT) has been conducted ex-ante to calculate the quantity of fuel required to purify by boiling one liter of water for 10 minutes using technologies and fuels representative of the baseline scenario ( $W_{b,y}$ ). The BWBT was conducted using the 90/30 rule<sup>15</sup> for selection of samples, accounting for variability in the types of prevalent baseline technologies. The separate BWBT Report described gives full details of the implemented test and its results<sup>16</sup>.

If the later monitoring surveys reveal that the same water boiling technologies are prevalent in the baseline and project scenarios,  $W_{b,y}$  and  $W_{p,y}$  are equal. The BWBT should be updated if monitoring surveys show that water boiling technologies changes over time.

## B.5. Demonstration of additionality

The below table is only applicable if the proposed project type is deemed additional, as defined by the applied approved methodology or activity requirement or product requirement.

<p>Specify the methodology or activity requirement or product requirement that establish deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).</p>	<p>Community Services Activity Requirements (Version 1), paragraph 2.5.2:</p> <p>“Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification:</p> <p>(a) Positive list (Annex B)</p> <p>(b) Projects located in LDC, SIDS, LLDC<sup>14</sup></p> <p>(c) Micro-scale projects”</p>
<p>Describe how the proposed project meets the criteria for deemed additionality.</p>	<p>The VPA meets the criteria (c) “Micro-scale projects” of the section 1.2.3 of the Community Services Activity Requirements as demonstrated in the section A.6 of this VPA-DD.</p> <p>The demonstration of the VPA being a “Community Services Activity” is made instead in section A.2. of this VPA-DD.</p>

<sup>15</sup> The endpoints of the 90% confidence interval lie within +/- 30% of the estimated mean

<sup>16</sup> BWBT Report and corresponding raw data will be uploaded to GS Registry at Project Design Certification stage

## B.6. Sustainable Development Goals (SDG) outcomes

### B.6.1. Relevant target for each of the three SDGs

Sustainable Development Goal (SDG)	Relevant target <sup>17</sup>
1 – SDG 13	Climate Change Mitigation measured as reduced tCO <sub>2e</sub> <sup>18</sup>  <b>Indicator:</b> Reduced CO <sub>2e</sub> emissions / year <b>Outcome:</b> Approximately 9,646 tCO <sub>2e</sub> / year
2 – SDG 3	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases  <b>Indicator 1:</b> Number of persons consuming clean and safe drinking water provided by the project <b>Outcome 1:</b> Approximately 3,188 persons <b>Indicator 2:</b> Frequency of water-borne diseases (like e.g. diarrhea) <b>Outcome 2:</b> Less people suffering of diarrhea and other water-borne diseases in the project scenarion compared to the baseline scenario
3 – SDG 6	By 2030, achieve universal and equitable access to safe and affordable drinking water for all  <b>Indicator:</b> Number of persons having access to clean and safe drinking water source provided by the project <b>Outcome:</b> Approximately 4,250 persons
4 – SDG 12	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature  <b>Indicator:</b> Number of campaigns on water, sanitation and health related issues <b>Outcome:</b> One campaign/year

### B.6.2. Explanation of methodological choices/approaches for estimating the SDG outcome

The outcomes of the SDG 13 will be measured as reduced CO<sub>2e</sub> emissions applying the Gold Standard TPDDTEC methodology as described below. The SDG 13 outcomes will be later certified as “Certified SDG 13 Impacts” allowing the generation of carbon credits (VERs).

The other SDGs impact of this VPA (SDG 3, SDG 6 and SDG 12) will not be certified as “Certified SDG Impacts” and, therefore, for these impacts no specific methodologies for monitoring and estimation will be used.

#### Methodological choices/approaches related to SDG 13

According to the Annex 3 of the applied TPDDTEC methodology, emission reductions calculation for safe water supply projects can be conducted as follows:

#### Baseline Scenario Fuel Consumption Calculation

$$B_{b,y} = (1 - X_{boil}) * (1 - C_i) * N_{p,y} * W_{b,y} * (Q_{p,y} + Q_{p,rawboil,y})$$

Where:

<sup>17</sup> <http://www.un.org/sustainabledevelopment/sustainable-development-goals/> (Site visited 04/04/2018)

<sup>18</sup> In line with the GG4GG Claims Guideline: “Unlike other SDGs the targets and Indicators associated with SDG13 cross-reference the Paris Agreement. A specific target is therefore not provided, Gold Standard interprets this as mitigation, measured as tCO<sub>2e</sub> for the purpose of this document.”



# Gold Standard®

$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during the year in tons (L/p/d)
$X_{boil}$	Percentage of premises that in the absence of the project activity would have used non-GHG emitting technologies like chlorine treatment techniques (if available) in the project boundary
$C_i$	Percentage of users of project safe water supply who were already in baseline using a non boiling safe water supply
$N_{p,y}$	Number of person.days consuming water supplied by project scenario p through year y
$W_{b,y}$	Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b in year y as per Baseline Water Boiling Test.
$Q_{p,y}$	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day in year y
$Q_{p,rawboil,y}$	Quantity of raw water boiled in the project scenario p per person per day

The total safe water consumed in the project scenario is the amount of safe water supplied by the project technology and consumed in the project scenario, plus the amount of raw water boiled after introducing the project technology (respectively represented above as  $Q_{p,y} + Q_{p,rawboil,y}$ ). This total is assumed to be equivalent to the water boiled in the baseline. If the total of these two volumes exceed the cap stipulated in the below table (in line with the page 39 of applied TPDDTEC methodology), the project proponent's claim for emission reductions may not exceed the cap.

Type of Premises	Default value (litres/person/day)	Capped value (litres/person/day)	Applicability	Reference
Full-day premises	4	7	Premises like households etc.	WHO Technical Notes for Emergencies, Technical Note No. 9, Minimum Water Quantity Needed

## Project Scenario Fuel Consumption Calculation

$$B_{p,y} = (1 - C_i) * N_{p,y} * W_{p,y} * (Q_{p,rawboil,y} + Q_{p,cleanboil,y})$$

Where:

$B_{p,y}$	Quantity of fuel f consumed in project scenario p during the year y in tons
$C_i$	Percentage of users of project safe water supply who were already in baseline using a non boiling safe water supply
$N_{p,y}$	Number of person.days consuming water supplied by project scenario p through year y
$W_{b,y}$	Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b in year y as per Baseline Water Boiling Test.
$Q_{p,rawboil,y}$	Quantity of raw water boiled in the project scenario p per person per day
$Q_{p,cleanboil,y}$	Quantity of safe water boiled in the project scenario p per person per day in year y

## Emission Reductions

$$BE_{b,y} = B_{b,y} * ((f_{NRB} * EF_{fuel,CO2}) + EF_{fuel,non-CO2}) * NCV_{b,fuel}$$

$$PE_{p,y} = B_{p,y} * ((f_{NRB} * EF_{fuel,CO2}) + EF_{fuel,non-CO2}) * NCV_{p,fuel}$$

$$ER_y = (\sum BE_{fuel,b,y} - \sum PE_{fuel,p,y}) * U_{p,y} - \sum LE_{p,y}$$

Where:

$BE_{b,y}$	Emissions for baseline scenario b during year y in tCO <sub>2</sub> e
$PE_{p,y}$	Emissions for project scenario p during year y in tCO <sub>2</sub> e
$f_{NRB}$	Fraction of biomass used that can be established as non-renewable biomass
$EF_{fuel,CO2}$	CO <sub>2</sub> emission factor of the fuel that is substituted or reduced

# Gold Standard®

$EF_{fuel,non-CO_2}$	Non-CO <sub>2</sub> emission factor arising from use of fuels in baseline scenario
$NCV_{b,fuel}$	Net calorific value of the fuels used in the baseline
$NCV_{p,fuel}$	Net calorific value of the fuels used in the project
$ER_y$	Emission reduction for total project activity in year y (tCO <sub>2e</sub> /yr)
$U_{p,y}$	Cumulative usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate
$LE_{p,y}$	Leakage from project scenario p in year y (tCO <sub>2e</sub> /yr)

## B.6.3. Data and parameters fixed ex ante for monitoring contribution to each of the three SDGs

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	$X_{boil}$
<b>Unit</b>	Percentage
<b>Description</b>	Percentage of premises that in the absence of the project activity would have used non-GHG emitting technologies like chlorine treatment techniques (if available) in the project boundary.
<b>Source of data</b>	Baseline Survey
<b>Value(s) applied</b>	N/A
<b>Choice of data or Measurement methods and procedures</b>	N/A
<b>Purpose of data</b>	Estimation of CO <sub>2e</sub> emission reductions
<b>Additional comment</b>	Transparent data analysis and reporting. This parameter is only applied for premises that are under suppressed demand situation.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	$C_i$
<b>Unit</b>	Percentage
<b>Description</b>	Percentage of users of project safe water supply who were already in baseline using a non-boiling safe water supply
<b>Source of data</b>	Baseline Survey
<b>Value(s) applied</b>	N/A
<b>Choice of data or Measurement methods and procedures</b>	N/A
<b>Purpose of data</b>	Estimation of CO <sub>2e</sub> emission reductions
<b>Additional comment</b>	Transparent data analysis and reporting.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	$W_{b,y}$
<b>Unit</b>	Tons/Litre
<b>Description</b>	Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representatives of baseline scenario b during year y
<b>Source of data</b>	Baseline Water Boiling Test (BWBT)
<b>Value(s) applied</b>	N/A

# Gold Standard®

<b>Choice of data or Measurement methods and procedures</b>	N/A
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	Transparent data analysis and reporting.  Baseline only; Should be updated if ongoing monitoring surveys show that baseline water boiling technologies change over time.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	$W_{p,y}$
<b>Unit</b>	Tons/Litre
<b>Description</b>	Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representatives of project scenario b during year y
<b>Source of data</b>	Baseline Water Boiling test or Project Water Boiling Test following same procedure as BWBT
<b>Value(s) applied</b>	N/A
<b>Choice of data or Measurement methods and procedures</b>	Ex ante assumption is that the same water boiling technologies are prevalent in the baseline and project scenarios and therefore $W_{b,y}$ and $W_{p,y}$ are equal.
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	Transparent data analysis and reporting. If the later monitoring surveys reveal that the same water boiling technologies are prevalent in the baseline and project scenarios, $W_{b,y}$ and $W_{p,y}$ are equal. Should be updated whenever new water boiling technologies are introduced over time.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	$EF_{b,co2}$
<b>Unit</b>	tCO <sub>2</sub> /TJ
<b>Description</b>	CO <sub>2</sub> emission factor arising from use of fuels in baseline scenario
<b>Source of data</b>	IPCC default value for wood
<b>Value(s) applied</b>	112
<b>Choice of data or Measurement methods and procedures</b>	Deemed valid by TPDDTEC Methodology
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	$EF_{b,non\ co2}$
<b>Unit</b>	tCO <sub>2</sub> /TJ
<b>Description</b>	CO <sub>2</sub> emission factor arising from use of fuels in project scenario
<b>Source of data</b>	IPCC default value for wood
<b>Value(s) applied</b>	8.692

<b>Choice of data or Measurement methods and procedures</b>	Deemed valid by TPDDTEC Methodology
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	If EF is in units of tCO <sub>2</sub> /t <sub>fuel</sub> , remove NCV term from emission calculations. Term can include a combination of emission factors from fuel production, transport and use in line with the emission sources included in the project. CO <sub>2</sub> -emission factors for charcoal may be estimated from project specific monitoring or alternatively by researching a conservative wood to charcoal ratio (from IPCC, credible published literature, project-relevant measurement reports, or project-specific monitoring) and multiplying this value by the pertinent EF for wood.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	EF <sub>p,co2</sub>
<b>Unit</b>	tCO <sub>2</sub> /TJ
<b>Description</b>	CO <sub>2</sub> emission factor arising from use of fuels in project scenario
<b>Source of data</b>	IPCC default value for wood
<b>Value(s) applied</b>	112
<b>Choice of data or Measurement methods and procedures</b>	Deemed valid by TPDDTEC Methodology
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	If EF is in units of tCO <sub>2</sub> /t <sub>fuel</sub> , remove NCV term from emission calculations. Term can include a combination of emission factors from fuel production, transport and use in line with the emission sources included in the project. CO <sub>2</sub> -emission factors for charcoal may be estimated from project specific monitoring or alternatively by researching a conservative wood to charcoal ratio (from IPCC, credible published literature, project-relevant measurement reports, or project-specific monitoring) and multiplying this value by the pertinent EF for wood.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	EF <sub>p,non-co2</sub>
<b>Unit</b>	tCO <sub>2</sub> /TJ
<b>Description</b>	Non-CO <sub>2</sub> emission factor arising from use of fuels in project scenario
<b>Source of data</b>	IPCC default value for wood
<b>Value(s) applied</b>	8.692
<b>Choice of data or Measurement methods and procedures</b>	Deemed valid by TPDDTEC Methodology
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions

# Gold Standard<sup>®</sup>

<b>Additional comment</b>	<p>If EF is in units of tCO<sub>2</sub>/t<sub>fuel</sub>, remove NCV term from emission calculations.</p> <p>Term can include a combination of emission factors from fuel production, transport and use in line with the emission sources included in the project.</p> <p>Non-CO<sub>2</sub>-emission factors for charcoal may be estimated from project specific monitoring or alternatively by researching a conservative wood to charcoal ratio (from IPCC, credible published literature, project-relevant measurement reports, or project-specific monitoring) and multiplying this value by the pertinent EF for wood.</p>
---------------------------	--

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	f <sub>NRB,i,y</sub>
<b>Unit</b>	Fraction
<b>Description</b>	Non-renewability status of woody biomass fuel in scenario I during the year y
<b>Source of data</b>	Default f <sub>NRB</sub> value provided by CDM Executive Board and endorsed by the host country DNA <sup>19</sup> .
<b>Value(s) applied</b>	0.72
<b>Choice of data or Measurement methods and procedures</b>	The default NRB value provided by the CDM Executive Board and endorsed by the host country DNA is deemed valid by the applied TPDDTEC methodology.
<b>Purpose of data</b>	Estimation of CO <sub>2e</sub> emission reductions
<b>Additional comment</b>	The value of f <sub>NRB</sub> is fixed ex-ante for entire crediting period even though the project activity may choose to update the f <sub>NRB</sub> during the crediting period. In case CDM/DNA updates on this value, PP may continue to use the registered value by demonstrating it's to be a conservative approach. Otherwise, PP shall use an updated value

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	NCV <sub>b,fuel</sub>
<b>Unit</b>	TJ/ton
<b>Description</b>	Net calorific value of the fuels used in the baseline
<b>Source of data</b>	IPCC default value for wood
<b>Value(s) applied</b>	0.0156
<b>Choice of data or Measurement methods and procedures</b>	Deemed valid by TPDDTEC Methodology
<b>Purpose of data</b>	Estimation of CO <sub>2e</sub> emission reductions
<b>Additional comment</b>	Fixed for the entire VPA crediting period Term can include a combination of emission factors from fuel production, transport and use in line with the emission sources included in the project.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data/parameter</b>	NCV <sub>p,fuel</sub>
<b>Unit</b>	TJ/ton

<sup>19</sup> Available at <http://cdm.unfccc.int/DNA/fNRB/index.html> (Site visited 09/07/2018)

<b>Description</b>	Net calorific value of the fuels used in the project
<b>Source of data</b>	IPCC default value for wood
<b>Value(s) applied</b>	0.0156
<b>Choice of data or Measurement methods and procedures</b>	Deemed valid by Methodology
<b>Purpose of data</b>	Estimation of CO <sub>2e</sub> emission reductions
<b>Additional comment</b>	Fixed for the entire VPA crediting period Term can include a combination of emission factors from fuel production, transport and use in line with the emission sources included in the project. If EF in units of tCO <sub>2</sub> /t <sub>fuel</sub> , remove NCV term from emission calculations. This has same values as NCV <sub>baseline</sub> in projects which reduce use of the same fuel.

## B.6.4. Ex ante estimation of outcomes linked to each of the three SDGs

### Ex-ante calculations related to the outcomes of SDG 13

The transparent ex-ante calculations of the outcomes of SDG 13 (i.e. CO<sub>2e</sub> reductions) are provided in a separate Excel Spreadsheet uploaded to GS Registry. For data/parameters available before design certification values contained in section B.6.3 and for data/parameters not available before design certification the estimates contained in section B.7.1 have been used.

### Ex-ante calculations related to the outcomes of SDG 3

The value of the parameter “Number of persons consuming clean and safe drinking water” is calculated as follows: Persons having access to project boreholes \* Up,y.

Therefore, in ex-ante situation the the calculations is as follows:

$$\begin{aligned} &\text{Persons having access to project boreholes} * U_{p,y} \\ &= 4,250 * 0.75 \\ &= 3,188 \end{aligned}$$

Regarding the parameter “Frequency of water-borne diseases (like e.g. diarrhea)” no specific calculations are needed to be made but the outcomes are estimated directly via the qualitative auto-evaluation of the sample families.

### Ex-ante calculations related to the outcomes of SDG 6

N/A. No specific calculations are needed to be made for the parameter “Number of persons having access to clean and safe drinking water source provided by the project”.

### Ex-ante calculations related to the outcomes of SDG 12

N/A. No specific calculations are need to be made for the parameter “Number of campaigns on water, sanitation and health related issues”.

## B.6.5. Summary of ex ante estimates of each SDG outcome

Year	Baseline estimate	Project estimate	Net benefit
------	-------------------	------------------	-------------

2018 (18/11/2018 - 31/12/2018)	1,586	396	1,189
2019	12,862	3,215	9,646
2020	12,862	3,215	9,646
2021	12,862	3,215	9,646
2022	12,862	3,215	9,646
2023 (01/01/2023 - 17/11/2023)	11,276	2,819	8,457
<b>Total</b>	<b>64,310</b>	<b>16,077</b>	<b>48,232</b>
<b>Total number of crediting years</b>	5		
<b>Annual average over the crediting period</b>	12,862	3,215	9,646

### Ex-ante estimations of SDG 3 Outcomes

- 3,188 persons are consuming clean and safe water drinking water provided by the project
- Less people suffering of diarrhea and other water-borne diseases in the project scenarion compared to the baseline scenario

### Ex-ante estimations of SDG 6 Outcomes

- 4,250 persons are having access to clean and safe drinking water source provided by the project

### Ex-ante estimations of SDG 12 Outcomes

- Annually one campaign on water, sanitation and health related issues

## B.7. Monitoring plan

### B.7.1. Data and parameters to be monitored

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data / Parameter</b>	$N_{p,y}$
<b>Unit</b>	Persons.days
<b>Description</b>	Number of person.days consuming water supplied by project scenario p through year y
<b>Source of data</b>	Lists supplied by the community group and or district water officer responsible for the water supply and treatment system
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	As per FT updates
<b>Monitoring frequency</b>	At least biennially
<b>QA/QC procedures</b>	Transparent data analysis and reporting
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data / Parameter</b>	$Q_{p,y}$

# Gold Standard®

<b>Unit</b>	Liters per person per day (l/person/day)
<b>Description</b>	Quantity of safe water supplied in the project scenario p during the year y, using the “zero or low” emissions’ clean water supply technology
<b>Source of data</b>	Water Consumption Field Test (WCFT)
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	As per WCFT
<b>Monitoring frequency</b>	At least biennially
<b>QA/QC procedures</b>	Transparent data analysis and reporting
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data / Parameter</b>	$Q_{p,y,rawboil,y}$
<b>Unit</b>	Litres per person per day (l/person/day)
<b>Description</b>	Quantity of raw or unsafe water that is still boiled after installation of the water treatment technology.
<b>Source of data</b>	Water Consumption Field Test (WCFT)
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	As per WCFT
<b>Monitoring frequency</b>	At least biennially
<b>QA/QC procedures</b>	Transparent data analysis and reporting
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data / Parameter</b>	$Q_{p,cleanboil,y}$
<b>Unit</b>	Litres per person per day (l/person/day)
<b>Description</b>	Quantity of safe (treated, or from safe supply) water boiled in the project scenario p, after installation of project technology
<b>Source of data</b>	Water Consumption Field Test (WCFT)
<b>Value(s) applied</b>	Ex-ante estimation: 0
<b>Measurement methods and procedures</b>	As per WCFT
<b>Monitoring frequency</b>	At least biennially
<b>QA/QC procedures</b>	Transparent data analysis and reporting
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	

<b>Relevant SDG Indicator</b>	SDG 13 and SDG 3
<b>Data / Parameter</b>	$U_{p,y}$
<b>Unit</b>	Percentage



# Gold Standard<sup>®</sup>

<b>Description</b>	Usage rate in project scenario p during year y
<b>Source of data</b>	Annual usage survey
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	Field survey
<b>Monitoring frequency</b>	Annual or more frequently, in all cases on time for any request for issuance
<b>QA/QC procedures</b>	Transparent data analysis and reporting
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions and monitoring of SDG 3
<b>Additional comment</b>	A single usage parameter is weighted to be representative of the quantity of project technologies of each age being credited in a given project scenario – see section II. of the methodology.

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data / Parameter</b>	LE <sub>p,y</sub>
<b>Unit</b>	tCO <sub>2e</sub> /year
<b>Description</b>	Leakage in project scenario p during year y
<b>Source of data</b>	Baseline and monitoring surveys
<b>Value(s) applied</b>	Ex-ante estimation: 0
<b>Measurement methods and procedures</b>	Field survey
<b>Monitoring frequency</b>	Every two years
<b>QA/QC procedures</b>	Transparent data analysis and reporting
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	Aggregate leakage can be assessed for multiple project scenarios

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data / Parameter</b>	Quality of the treated water
<b>Unit</b>	As appropriate in alignment with QA/QC procedures
<b>Description</b>	Performance of the treatment technology – less than 1 Colony Forming Unit (CFU) of E.Coli / 100 ml of safe water <sup>20</sup>
<b>Source of data</b>	Water quality test
<b>Value(s) applied</b>	Ex-ante estimation: Zero Colony Forming Units (CFU) of E.Coli / 100 ml of safe water
<b>Measurement methods and procedures</b>	As per the local laboratory/hospital procedures or alternatively conducted via field tests like IDEXX presence/absence tests in 100 ml for E. Coli.
<b>Monitoring frequency</b>	Quarterly
<b>QA/QC procedures</b>	Transparent data analysis and reporting
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	N/A

<b>Relevant SDG Indicator</b>	SDG 13 and SDG 12
<b>Data / Parameter</b>	Hygiene campaigns
<b>Unit</b>	-

<sup>20</sup> See the National Water Quality Standard Madagascar uploaded to GS registry

# Gold Standard®

<b>Description</b>	Hygiene campaigns carried out among project technology users. The description of the campaigns is provided in Section B.6.1.
<b>Source of data</b>	Annual hygiene campaigns results
<b>Value(s) applied</b>	Report of the annual hygiene campaign
<b>Measurement methods and procedures</b>	-
<b>Monitoring frequency</b>	Annually
<b>QA/QC procedures</b>	-
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions and monitoring of SDG 12
<b>Additional comment</b>	Prior to the project the local communities received no regular training on water, sanitation and health related issues

<b>Relevant SDG Indicator</b>	SDG 13
<b>Data / Parameter</b>	Capacity <sup>21</sup>
<b>Unit</b>	Litres per day
<b>Description</b>	Treatment capacity of the project technology/improved sources
<b>Source of data</b>	Manufacturer specification/design specification
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	N/A
<b>Monitoring frequency</b>	Once at the time of registration or at inclusion of new technology.
<b>QA/QC procedures</b>	-
<b>Purpose of data</b>	Estimation of CO <sub>2</sub> e emission reductions
<b>Additional comment</b>	The water volume values used in the calculations of emission reductions must be justified in terms of capacity of the project technology/improved sources.

<b>Relevant SDG Indicator</b>	SDG 3
<b>Data / Parameter</b>	Number of persons consuming clean and safe drinking water
<b>Unit</b>	-
<b>Description</b>	Number of persons consuming the project drinking water which has been proven to be safe via water quality test
<b>Source of data</b>	Usage Survey and Water Quality test on the project water systems
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	N/A
<b>Monitoring frequency</b>	Annually
<b>QA/QC procedures</b>	N/A
<b>Purpose of data</b>	Monitoring of SDG 3
<b>Additional comment</b>	Calculated as follows: Persons having access to project boreholes * Up,y

<b>Relevant SDG Indicator</b>	SDG 3
-------------------------------	-------

<sup>21</sup> In line with the GS TAC rule update at <http://www.goldstandard.org/articles/tac-rule-updates> (Site visited 09/06/2017)

# Gold Standard®

<b>Data / Parameter</b>	Frequency of water-borne diseases (like e.g. diarrhea)
<b>Unit</b>	-
<b>Description</b>	Frequency of water-borne diseases with the project families estimated via qualitatively self-estimation by the families
<b>Source of data</b>	Monitoring Survey
<b>Value(s) applied</b>	Ex-ante estimation: Less people suffering of diarrhea and other water-borne diseases in the project scenarion compared to the baseline scenario
<b>Measurement methods and procedures</b>	Monitoring Survey will study qualitatively the suffering diarrhea and other water-borne diseases in the project scenario in comparison with the baseline scenario (The sample of project households are asked to evaluate if they experience less, more or the same amount of diarrhea and other water-borne diseases than prior to the project).
<b>Monitoring frequency</b>	Annually
<b>QA/QC procedures</b>	N/A
<b>Purpose of data</b>	Monitoring of SDG 3
<b>Additional comment</b>	

<b>Relevant SDG Indicator</b>	SDG 6
<b>Data / Parameter</b>	Number of persons having access to clean and safe drinking water source
<b>Unit</b>	N/A
<b>Description</b>	Number of persons having access to the project drinking water which has been proven to be safe via water quality test
<b>Source of data</b>	Lists supplied by the community group and or district water officer responsible for the water supply and treatment system + Water Quality test on the project water systems
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	
<b>Monitoring frequency</b>	Estimation of the number of the persons at least biennially as per the FT updates  Water quality test made every quarter, with the first test within 6 months of the stated project start date
<b>QA/QC procedures</b>	Trained personnel or external expert on water quality testing
<b>Purpose of data</b>	Monitoring of SDG 6
<b>Additional comment</b>	

## B.7.2. Sampling plan

The sampling approach is to be used for following surveys as summaries below:

### **Project Survey (PS) of end-user characteristics**

- The Project Survey has the same requirements as the Baseline Survey (described in Section B.4 of this VPA-DD) regarding the representativeness and sample sizing i.e. at least 100 households needs to be sampled when the target groups size is > 1000.
- When applicable the Project Survey and the Usage Survey will be implemented together using the same sample.

### **Baseline Water Boiling Test**

- The BWBT should be conducted using the 90/30 rule<sup>22</sup> for selection of samples, accounting for variability in the types of prevalent baseline technologies in line with the TPDDTEC methodology.

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

- Two valid options are allowed for the statistical analysis of the WCFT. In all cases, the sample size must be greater than 20:
  - a. 90/10 rule. When the sample sizes are large enough to satisfy the “90/10 rule”, i.e. the endpoints of the 90% confidence interval lie within +/- 10% of the estimated mean, overall emission reductions can be calculated on the basis on the estimated MEAN of each of the respective variable mentioned above.
  - b. 90% confidence rule. When the sample size is such that the “90/10 rule” is not complied with, the result used for the each of the respective variable mentioned above is not the mean (or average) test result, but a lower value, i.e. the lower bound of the one-sided 90% confidence interval (in order to reach a conservative estimate).

### **Water quality testing**

- *This description will be provided at Project Design Certification stage*

### **Usage Survey**

- *This description will be provided at Project Design Certification stage*

### **Leakage Assessment**

- Leakage assessment regarding the potential leakage sources will be completed every other year together with the Usage Survey and therefore no separate sampling approach are used for the leakage assessment.

## B.7.3. Other elements of monitoring plan

In line with the methodology TPDDTEC, the monitoring activities will involve data collection during distribution, installation and construction as well as post-implementation usage information regarding the project safe water supply / treatment technologies.

Firstly, the project proponent must to keep records of the information collected in an electronic database in line with the Section B.3 of the PoA-DD for enabling the unique identification of the project water supply systems. This database will include the following information:

- Unique identification number of each Water Supply System
- Date of installation of each Water Supply System

---

<sup>22</sup> The endpoints of the 90% confidence interval lie within +/- 30% of the estimated mean

# Gold Standard<sup>®</sup>

- GPS location of each Water Supply System
- Model of the pump and filter used for each Water Supply System
- Total quantity of the constructed Water Supply Systems
- The total number of people obtaining their water from each Water Supply System

The total number of households using each water supply and treatment system will be determined through the lists supplied for example by the community group and or district water officer responsible for that water supply and treatment system. Using this method, the total number of people using each borehole can be determined and hence a figure for person days can be calculated. Moreover, this list will be used for confirming that the end-user households locate within 1 km from the water source.

Secondly, after the project implementation start, the project proponent must conduct the following studies for each project scenario:

## **A. Project Non-Renewable Biomass (NRB) Assessment – at least at renewal of crediting period**

In accordance with the TPDDTEC methodology, the NRB assessment will remain fixed for the entire crediting period, although the project proponent may choose to re-examine the assessment at any time following the guidelines of the applied TPDDTEC methodology. In case of a renewal of the crediting period and as per Gold Standard rules, the NRB fraction must be reassessed as any other baseline parameters and updated in line with most recent data available.

## **B. Project Survey (PS) of end-user characteristics – completed annually**

The safe water project survey has the same requirements as the baseline survey (described in Section B.4 of this VPA-DD) but is conducted with end-users representative of the project scenario target population and currently using the safe water project technology.

In the guidance data collected, questions about end-user characteristics and baseline technology and fuels should be treated as specific to safe water supply and water treatment. These questions should be asked twice, first regarding to the baseline scenario water supply and water treatment, including boiling technologies, and second in regards to the project scenario clean water supply, including treatment and boiling technologies.

During the monitoring activities the Project Survey and the below described Usage Survey will be implemented together.

## **C. Baseline Water Boiling Test (BWBT) - completed at least once**

The BWBT has been performed ex-ante. If the later monitoring surveys reveal that the same water boiling technologies are prevalent in the baseline and project scenarios,  $W_{b,y}$  and  $W_{p,y}$  are equal. The BWBT should be updated if monitoring surveys show that water boiling technologies change over time.

Under certain circumstances the baseline scenario may require updating, in which case new baseline water boiling test may be necessary.

In case a new baseline water boiling test (BWBT) is conducted to calculate the quantity of fuel required to purify by boiling one liter of water for 10 minutes using technologies and fuels representative of the baseline scenario ( $W_{b,y}$ ).

## **D. Water Consumption Field Test (WCFT) - completed at least biennially**

The project proponent will carry out the WCFT to determine the actual safe water consumption and boiling volumes (both of raw/unsafe water and safe water)<sup>23</sup> for each project scenario. The WCFT is to be completed prior to first verification and then at least every two years after with randomly selected

---

<sup>23</sup> Measured as volume per person per day

# Gold Standard<sup>®</sup>

end-users representative of the project scenario target population and currently using the project technology following the WCFT Procedure designed for the project<sup>24</sup>.

Three different volumetric variables are measured:

$Q_p$	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day
$Q_{p,rawboil,y}$	Quantity of raw or unsafe water boiled in the project scenario p per person per day
$Q_{p,cleanboil,y}$	Quantity of safe (treated, or from safe supply) water boiled in the project scenario p per person per day

## E. On-going Monitoring Studies: Usage rates, leakage, water quality

### Water quality testing – completed every quarter

*This description will be provided at Project Design Certification stage.*

### Usage Survey – completed at least annually

The Usage Survey is completed annually, or more frequently, and all cases on time for any request of issuance. The usage survey provided a single usage parameter that is weighted based on drop off rates that are representative of age distribution for project technologies in the sales/distribution/construction record.

A usage parameter must be established to account for drop off rates as project technologies age are replaced. Prior to verification, a usage parameter is required that is weighted to be representative of the quantity of project technologies of each age being credited in a given project scenario. For example if only technologies in the first year of use ( $age_{0-1}$ ) are being credited, a usage parameter must be established through a usage survey for technologies  $age_{0-1}$ . If an equal number of technologies in the first year of use ( $age_{0-1}$ ) and second year of use ( $age_{1-2}$ ) are credited, a usage parameter is required that is weighted to be equally representative of drop off rates for technologies  $age_{0-1}$  and  $age_{1-2}$ . To ensure conservativeness, the usage survey with technologies in the first year of use ( $age_{0-1}$ ) must have technologies that have been in use on average longer than 0.5 years. For technologies in the second year of use ( $age_{1-2}$ ), the usage survey must be conducted with technologies that have been in use on average at least 1.5 years, and so on.

### Leakage Assessment – completed every other year

As the leakage risks related to the safe water supply and treatment technologies can be deemed very low, the leakage can be ignored and leakage is expected to be 0. However, to confirm that leakage can be deemed very low, the below described leakage assessment regarding the potential leakage sources (listed in the methodology TPDDTEC, pages 12-13) shall be completed every other year, starting on time for the first verification in line with the section 2.6 (“Leakage”) of the applied TPDDTEC methodology.

*Detailed description on leakage monitoring will be provided at Project Design Certification stage.*

## F. Hygiene Survey – completed annually

Project Proponent will carry out each year hygiene campaigns (as described below) and report the activities conducted as well as the number of the participants in the organized campaigns and the

---

<sup>24</sup> WCFT Procedure as attached to this VPA-DD (document will be uploaded to GS registry at Project Design Certification stage)

# Gold Standard<sup>®</sup>

number of the trained personnel in the annual monitoring report. Any major changes on the health status of the water users as a result of contaminated water (e.g. an outbreak of water related disease) will be reported and, if relevant, a strategy put in place to address it through the hygiene campaign. Hygiene refers here to access to sanitation amenities, equipment and infrastructure, as well as to the behavior in respect to regular and correct use of such amenities. It also refers to behavior that prevents infections from water-related diseases.

Below are described the designed activities for promoting hygiene. These activities will be adjusted when needed to suit learning year on year or if proven unsuccessful.

The success of education on hygiene issue will also be monitored through the WCFT which will study the ratio of end-user that are still boiling their drinking water in the project scenario and through the usage/monitoring survey to check on the use of clean/safe containers and devices for transport and storage of water used for drinking, cooking, food preparation and basic personal hygiene. In case needed the education on the hygiene will be adjusted if proven unsuccessful.

## **Description of hygiene campaigns:**

All the hygiene campaigns are foreseen to be based on “Water, Sanitation, and Hygiene Improvement, Training Package for the Prevention of Diarrheal Disease, Guide for Training Outreach Workers, USAID Hygiene Improvement Project, 2009” which is referred to in the applied methodology.

### 1) Initial hygiene campaign

Initial hygiene campaign will be organized within the first 12 months from the time the first project safe water system is ready. During these events water, sanitation and health related issues will be discussed and the benefits of consumption of safe water and the ways for hygienic handling during transport, storage and usage of clean water will be highlighted. The information sharing on hygienic handling may be promoted for example with offering for the event participants the possibility to buy new and hygienic water containers and by handing out to the end-users leaflets when possible.

### 2) Annual hygiene campaigns

Each year at least one campaign on water, sanitation and health related issues will be realized. The place and organization method of the event may vary from year to year and will be selected also to suit learning year on year. Examples of the methods which may be used for the campaigns are events, radio campaigns or sessions on hygiene included in some other event or training organized with the local stakeholders. Information is handed out to the end-users also via leaflets when applicable.

### 3) Information sharing done during the usage/monitoring survey and other monitoring activities

All the agents conducting the usage survey or other project monitoring activities will be trained on communicating hygiene information. In fact, the visiting of project households during the usage/monitoring survey (conducted annually for at least 100 project households), or during the other project monitoring activities when applicable, each interviewed family will be sensitized on the benefits of the hygiene in general and on the ways of the hygiene handling of clean water to encourage behavior change and prevent relapse after campaigns. Furthermore, the usage survey itself will include questions enabling to monitor the hygiene related issues:

- Usage/monitoring survey will study qualitatively the occurrence of diarrhea and other water borne diseases in the project scenario in comparison with the baseline scenario. The participants of the survey are asked to evaluate if they experience less, more or the same amount of diarrhea and other water borne diseases as before the project.
- Usage/monitoring survey will check qualitatively on the hygiene handling like use of clean/safe containers and devices for transport and storage of water used for drinking, cooking, food preparation and basic personal hygiene.

## SECTION C. Duration and crediting period

### C.1. Duration of project

#### C.1.1. Start date of project

09/08/2018

The above mentioned start date is being defined as the earliest date on which the Project Developer has committed to expenditures related to the implementation of the Project of construction, implementation or real action (i.e. the date of starting the construction works of the first borehole<sup>25</sup>), in compliance with section 3.4.3 of GS4GG Principles & Requirements (version 1).

#### C.1.2. Expected operational lifetime of project

15 years

### C.2. Crediting period of project

#### C.2.1. Start date of crediting period

18/11/2018

The above mentioned date is the date when the project safe water systems started to produce clean water<sup>26</sup>.

#### C.2.2. Total length of crediting period

5 years. The crediting period may be renewed twice in line with Community Services Activity Requirements.

## SECTION D. Safeguarding principles assessment

### D.1. Analysis of social, economic and environmental impacts

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes/potentially/no)	Justification	Mitigation measure (if required)
<b>Social &amp; Economic Safeguarding Principles</b>				
1 – Human Rights	1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal	No	The project is implemented respecting internationally proclaimed human rights and is no complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights.	N/A

<sup>25</sup> Supporting documentation for the start date will be uploaded to GS Registry at Project Design Certification stage

<sup>26</sup> This is the date when the water systems started to produce clean and safe water. As supporting documents will be uploaded to GS Registry Project Design Certification stage.



	<p>Declaration of Human Rights.</p> <p>2. The Project shall not discriminate with regards to participation and inclusion.</p>		<p>The Project will not discriminate with participation and inclusion as the safe water supply systems are free to be used for everybody.</p>	
<p>2 - Gender Equality and Women's Rights</p>	<p>1. The Project shall complete the following gender assessment questions in order to inform Requirements 2-4, below:</p> <p>Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits?</p> <p>Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)?</p> <p>Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project's activities (such as lack of time, child care duties, low literacy or educational levels, or societal discrimination)?</p> <p>Does the Project take into account</p>	<p>No</p>	<p><b>JUSTIFICATION POINT 1:</b></p> <p>The project activity doesn't endorse any form of discrimination based on gender. Madagascar has ratified ILO Convention 100 and 111.</p> <p>The safe water supply systems are free to be used for everybody and located in the central places and will not put therefore at risk women's or any other marginalised groups access to or control to water resources. It's not foreseen either any reduction or risk related to any other resource, entitlement or benefit.</p> <p>It is thereafter not either foreseen that the Project would adversely affect man and women in marginalised or vulnerable communities.</p> <p>The Project takes into account gender roles and the abilities of women and men to participate in the decision/designs of the project activities. For example the stakeholder consultation made in the project design phase included both women and men participating in the consultation meeting. Moreover, for example, the future annual hygiene campaigns will be planned and organized in the way to</p>	<p>N/A</p>

	<p>gender roles and the abilities of women or men to benefit from the Project's activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)?</p> <p>Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities?</p> <p>Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits?</p> <p>Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services?</p> <p>Is there a likelihood that the proposed Project would expose women and</p>		<p>avoid any discrimination of women or other marginalized groups. Infact, the women's participation will be essential for guaranteeing the success in improving the hygiene.</p> <p>In addition, the design of the hygiene campaigns as well as other project activities will take into account gender roles and the abilities of women and men to participate and benefit from the project activities.</p> <p>The project is not contributing to an increase in women's workload or preventing them from engaging in other activities. In fact, the availability of clean water is foreseen to reduce women's work load related to water supply distances and water purification activities. Moreover, potentially need for spending time for caring activities may reduce as the risk for for water born diseases will be reduced.</p> <p>The project is not foreseen to reproduce or deepen discrimination agains women. The women will have the same possibilities to access for clean water supply systems, the hygiene campaigns and for giving feedback regarding the project as any other community member.</p> <p>The project is not foreseen to limit women's ability to use, develop and protect natural resources. Instead the</p>	
--	--	--	---	--

	<p>girls to further risks or hazards?</p> <p>2. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women. Specifically, this shall include (not exhaustive):</p> <p>Sexual harassment and/or any forms of violence against women - address the multiple risks of gender-based violence, including sexual exploitation or human trafficking.</p> <p>Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls.</p> <p>Restriction of women's rights or access to resources (natural or economic).</p> <p>Recognise women's ownership rights regardless of marital status - adopt project measures where possible to support to women's access to inherit and own land, homes, and other assets or natural resources.</p> <p>3. Projects shall apply the principles of nondiscrimination, equal treatment,</p>		<p>project gives an easy access for clean and safe drinking water.</p> <p>It's not either likely that the project activity would exposed women or girls to further risks or hazards as the project boreholes are located in the central places of the project villages and the distances need for water fencing is foreseen to be reduced. Moreover, the clean safe water and improved hygiene are foreseen to improve the conditions of women and girl.</p> <p><b>JUSTIFICATION POINT 2:</b></p> <p>The Project will not directly or indirectly lead or contribute to adverse impacts on gender equality or the situation of women. In fact, the within 1 km access to clean and safe water are foreseen to improve the general conditions of women and not to lead to any risk of contributing issues like sexual harassment/ exploitation, violence, human trafficking slavery, imprisonment, drudgery or restriction of women's rights or access to resources.</p> <p>The project activities are providing free access to clean and safe water for the local communities. It will not have any impact on women's ownership rights to inherit and own land, homes and other assets.</p> <p><b>JUSTIFICATION POINT 3:</b></p>	
--	--	--	---	--

	<p>and equal pay for equal work, specifically:</p> <p>Where appropriate for the implementation of a Project, paid, volunteer work or community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities.</p> <p>Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status.</p> <p>Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits.</p> <p>4. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.</p> <p>5. Based on the Preliminary Review assessment of Requirement 1, above, Gold Standard may require that the Project seek the input of an Expert</p>		<p>The Project applies the principles of nondiscrimination and equal treatment and, in fact, the access to clean and safe water is free to everybody.</p> <p>For the water system construction works and for any other eventual paid or volunteer work the principle of the equal pay for equal work will be applied and organized in way to provide the conditions for equitable participation of men and women.</p> <p>Project activities, like using the clean and safe water and participating in the annual hygiene campaigns, are planned in way that the participation of both women and men is guaranteed. There are no limitations on participation or benefiting from the Project depending on the pregnancy, maternity/paternity leave or marital status.</p> <p><b>JUSTIFICATION POINT 4:</b></p> <p>The Project will not include any specific gender related risks.</p> <p><b>JUSTIFICATION POINT 5:</b></p> <p>Not applicable.</p>	
--	---	--	--	--

	Stakeholder and to include their recommendations in the Project design.			
3 - Community Health, Safety and Working Conditions	1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	<p>The project activities doesn't include exposing the community to increased health risks and is not adversely affecting the health of workers and the community.</p> <p>For example, the workers participating the project activity are not exposed to unsafe or unhealthy work environments as the construction of safe water supply system or the monitoring activities of the project will not include any hazardous chemicals or other hazardous material.</p>	N/A
4 - Cultural Heritage, Indigenous Peoples, Displacement and Resettlement	<p><b>Sites of Cultural and Historical Heritage</b> Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)?</p> <p><b>Forced Eviction and Displacement</b> Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?</p> <p><b>Land Tenure and Other Rights</b> 1. Does the Project require any change</p>	No	<p>The project activity doesn't include sites, structures or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture. The Project will introduce clean and safe water sources and it does not require alternation, damage or removal of any historical, artistic, traditional, religious or cultural heritage issues.</p> <p>The project activity consists of introducing clean and safe water sources and therefore no physical or economic relocation of people is involved.</p> <p>The project doesn't require any change to land tenure arrangements and/or other rights.</p>	N/A

	<p>to land tenure arrangements and/or other rights?</p> <p>2. For Projects involving land-use tenure, are there any uncertainties with regards land tenure, access rights, usage rights or land ownership?</p> <p><b>Indigenous Peoples</b> Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?</p>		<p>There are no indigenous peoples present within the area of influence nor the project is located on territory claimed by indigenous people.</p>	
5 - Corruption	<p>1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.</p>	No	<p>The Project doesn't involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.</p> <p>Madagascar has ratified the UN Convention against Corruption.</p>	N/A
6 - Economic Impacts	<p><b>Labour rights</b> 1. The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. Where</p>	No	<p><b>JUSTIFICATIONS RELATED TO LABOUR RIGHTS:</b></p> <p>The employees' rights are a cross-cutting issue and respected in all of the projects of Associazione Mondobimbi Veneto Onlus. Madagascar has ratified ILO Convention 87 and 98.</p> <p>All employees (mainly hired temporarily for monitoring activities as well as for water system construction activities) will work voluntarily for the project, no forced labour is used and all employment is in</p>	N/A

	<p>these are contradictory and a breach of one or other cannot be avoided, then guidance shall be sought from Gold Standard.</p> <p>2. Workers shall be able to establish and join labour organisations.</p> <p>3. Working agreements with all individual workers shall be documented and implemented. These shall at minimum comprise:</p> <p>(a) Working hours (must not exceed 48 hours per week on a regular basis), AND</p> <p>(b) Duties and tasks, AND</p> <p>(c) Remuneration (must include provision for payment of overtime), AND</p> <p>(d) Modalities on health insurance, AND</p> <p>(e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND</p> <p>Provision for annual leave of not less than 10 days per year, not including sick and casual leave.</p> <p>4. The Project Developer shall justify that the</p>		<p>compliance with national laws and consistency with the principles and standard ILO conventions. In fact, Madagascar has ratified ILO Convention 29 and 105.</p> <p>The workers are able to establish and join labour organizations.</p> <p>The working agreements with the individual workers will be documented and implemented and the minimum requirements stated in section 3.6.1. of GS4GG Safeguarding Principles &amp; Requirements (version 1) will be respected whenever applicable.</p> <p>The employment model applied will be also locally and culturally appropriate.</p> <p>Moreover, all the possible staff hired has a minimum age of 18. Madagascar has ratified ILO Convention 138 and 182.</p> <p>All the works will be made by using appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.</p>	
--	--	--	---	--

	<p>employment model applied is locally and culturally appropriate.</p> <p>5. Child labour, as defined by the ILO Minimum Age Convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in recruitment procedures. Exceptions are children for work on their families' property as long as:</p> <p>(a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND</p> <p>(b) The tasks they perform do not harm their physical and mental development, AND</p> <p>(c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the Project design.</p> <p>6. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.</p>			
--	---	--	--	--



	<p><b>Negative Economic Consequence</b></p> <p>1. The Project Developer shall demonstrate the financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period.</p> <p>2. The Projects shall consider economic impacts and demonstrate a consideration of potential risks to the local economy and how these have been taken into account in Project design, implementation, operation and after the Project. Particular focus shall be given to vulnerable and marginalised social groups in targeted communities and that benefits are socially-inclusive and sustainable.</p>		<p><b>JUSTIFICATION RELATED TO NEGATIVE ECONOMIC CONSEQUENCES:</b></p> <p>The main investment of the project activity is the initial construction cost of the safe water systems and it will be covered by the Project Developer. The use of the safe and clean water is free for the local communities. The safe water supply and the foreseen improved hygiene knowledge via the annual campaigns are foreseen to last beyond the Project Certification period.</p> <p>The use of clean and safe drinking water is free for everybody and therefore the project benefits can be considered socially-inclusive. The project water supply systems will be equipped by manual pumps to extract the water from the wells, hence energy use is not foreseen and can be considered sustainable.</p> <p>There are not expected any direct economic impact or potential risks to the local economy.</p>	
<b>Environmental &amp; Ecological Safeguarding Principles</b>				
1 – Climate and Energy	<p><b>Emissions</b> Will the Project increase greenhouse gas emissions over the Baseline Scenario?</p> <p><b>Energy Supply</b> Will the Project use energy from a</p>	No	<p>The project will reduce the GHG emissions as will be monitored and verified in line with the GS4GG.</p> <p>The project will use handle pumps and no energy from other sources is used.</p>	N/A

	local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?			
2 - Water	<p><b>Impact on Natural Water Patterns/Flows</b> Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?</p> <p><b>Erosion and/or Water Body Instability</b> 1. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to question 2.</p> <p>2. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?</p>	No	<p>The project water systems will use ground-water but will not affect negative natural or pre-existing pattern of watercourses, ground-water and/or watersheds.</p> <p>The project will not cause additional erosion and/or water body instability of or disrupt the natural pattern of erosion.</p>	N/A
3 – Environment, ecology and land use	<p><b>Landscape Modification and Soil</b> Does the Project involve the use of land and soil for production of crops or other products?</p> <p><b>Vulnerability to Natural Disaster</b></p>	No	<p>The Project provides safe and clean drinking water and doesn't involve the used of land and soil for production of crops or other projects.</p> <p>The Project provides supply of safe and clean drinking water and is not</p>	N/A

	<p>Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?</p> <p><b>Genetic Resources</b> Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)?</p> <p><b>Release of pollutants</b> Could the Project potentially result in the release of pollutants to the environment?</p> <p><b>Hazardous and Non-hazardous Waste</b> Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?</p> <p><b>Pesticides &amp; Fertilisers</b> Will the Project involve the application of pesticides and/or fertilisers?</p> <p><b>Harvesting of Forest</b> Will the Project involve the harvesting of forests?</p>		<p>suscepted to or will lead to increased vulnerability to any extreme climatic conditions.</p> <p>The Project provides safe and clean drinking water and doesn't involve / or be negatively impacted by the use of genetically modified organisms or GMOs.</p> <p>The Project is not potentially resulting in release of pollutants to the environment.</p> <p>The Project is not involving the manufacture, trade, release, and/or use of hazardous chemicals and or materials.</p> <p>The Project doesn't involve the application of pesticides and/or fertilisers.</p> <p>Neither harvesting of forests is involved.</p> <p>The Project doesn't modify the quantity or nutritional quality of food available.</p> <p>The Project doesn't involve animal husbandry.</p> <p>The project is not located in an area within a high conservation value area or within critical natural habitats. Furthermore, the aim of the project is to reduce the quantity of firewood consumed in the project area for boiling the water (for purifying) which may save the natural resources.</p>	
--	--	--	---	--

	<p><b>Food</b> Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?</p> <p><b>Animal husbandry</b> Will the Project involve animal husbandry?</p> <p><b>High Conservation Value Areas and Critical Habitats</b> Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?</p> <p><b>Endangered Species</b> 1. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?</p> <p>2. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?</p>		<p>The project boundary is the physical, geographical sites of the project technologies, in other words, the physical location of the safe water supply systems installed by the project (as described in Section A.5. above) . There are no endangered species identified as potentially being present the project boundary.</p> <p>The safe water supply systems are not expected either potentially impact other areas where endangered species may be present through transboundary affects.</p>	
--	---	--	--	--

## **SECTION E. Local stakeholder consultation**

### **E.1. Solicitation of comments from stakeholders**

See the “Local Stakeholder Consultation Report”.

### **E.2. Summary of comments received**

See the “Local Stakeholder Consultation Report”.

### **E.3. Report on consideration of comments received**

See the “Local Stakeholder Consultation Report”.

## Appendix 1. Contact information of project participants

<b>Organization name</b>	Carbonsink Group S.r.l. (Carbonsink)
<b>Registration number with relevant authority</b>	
<b>Street/P.O. Box</b>	Piazza Beverni
<b>Building</b>	4
<b>City</b>	La Spezia
<b>State/Region</b>	
<b>Postcode</b>	19121
<b>Country</b>	Italy
<b>Telephone</b>	+39 055 4574675
<b>Fax</b>	
<b>E-mail</b>	info@carbonsink.it
<b>Website</b>	www.carbonsink.it
<b>Contact person</b>	Ulla Mauno
<b>Title</b>	
<b>Salutation</b>	Ms.
<b>Last name</b>	Mauno
<b>Middle name</b>	
<b>First name</b>	Ulla
<b>Department</b>	
<b>Mobile</b>	
<b>Direct fax</b>	
<b>Direct tel.</b>	+39 055 4574675
<b>Personal e-mail</b>	ulla.mauno@carbonsink.it

## Appendix 2. Summary of post registration design changes