

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



July 2017, Version 1

KEY PROJECT INFORMATION

Title of Project:	Native Energy Clean Water Programme South East Asia: NE_VPA 01_IND GS 3964
Title of the PoA:	Native Energy Hydrad BioSand Water Filter Programme South East Asia GS 3698
Brief description of Project:	NE-VPA-01-IND, herein after referred to as the project activity, is centered on the introduction of zero energy water filters for point of use application to replace the use of wood fuels for water treatment and in the alternative alleviate situations of suppressed demand where raw water is consumed but would have been boiled in the absence of both the project activity and prevailing energy poverty barriers. In so doing the project activity is designed so as to abate greenhouse gas emissions, Indoor air pollution as well as to reduce the pressure on non-renewable biomass resources within the project boundary. 1,624 filters in the specific districts in Jharkhand and West Bengal states in the Republic of India. These districts are East of Medinipur, North 24 Parganas, South 24 Parganas in West Bengal state and Ranchi, Ghumla and Khunti districts in Jharkhand state. The project qualifies as sectoral Scope 03, Type III project activity. As a gold standard micro scale project activity, the VPA shall generate greenhouse gas emissions 9,762 tCO₂e per annum.
GS Registration Date:	08/08/2019
GS Crediting period start date:	1/05/2019
Expected Implementation Date:	13/01/2018
Expected duration of Project:	10 years
Project Developer:	Native Energy
Project Representative:	Native Energy
Project Participants and any communities involved:	Native Energy
Version of PDD:	Version 05
Date of Version:	Date: 09/10/2019
Host Country / Location:	The Republic of India
Certification Pathway (Project Certification/Impact Statements & Products)	Impact Statement and Products
Activity Requirements applied: (mark GS4GG if none relevant)	Verified Emission Reductions
Methodologies applied:	Technologies and Practices to Displace Decentralized Thermal Energy Consumption 11th February 2011, Version 2.2.
Product Requirements applied:	GHG Emissions Reduction & Sequestration
Regular/Retroactive:	Regular
SDG Impacts:	1 SDG 3 Good health and well-being

	2 SDG 6 Clean water and sanitation 3 SDG 8 Decent work and Economic growth 4 SDG 13 Climate Action
Estimated amount of SDG Impact Certified	SDG 3: Usage 80%, Quality of treated water 80%, Np,y 1,825, Reduction of water borne diseases 70%, Perceived change in air quality 60% SDG 6: Quantity of treated water per person per day 5 litres, Quantity of raw water boiled 0, Quantity of water filtered then boiled 0, Number of people trained 10 SDG 8: Number of people employed 5, average income generation per person 10,000 INR, SDG 13: GS VERs 9,762 tCO ₂ e per annum.

SECTION A. Description of project

A.1. Purpose and general description of project

>> NE – VPA 01 – IND herein after referred to as the project activity, is centred on the introduction of zero energy water filters for point of use application to replace the use of wood fuels for water treatment and in the alternative alleviate situations of suppressed demand where raw water is consumed but would have been boiled in the absence of both the project activity and prevailing energy poverty barriers. In so doing the project activity is designed so as to abate greenhouse gas emissions, Indoor air pollution as well as to reduce the pressure on non-renewable biomass resources within the project boundary.

The project activity seeks to distribute approximately 1,624 filters in the specific districts in Jharkhand and West Bengal states in the Republic of India. These districts are East of Medinipur, North 24 Parganas, South 24 Parganas in West Bengal state and Ranchi, Ghumla and Khunti districts in Jharkhand state. The project qualifies as sectoral Scope 03, Type III project activity . As a gold standard micro scale project activity, the VPA shall generate greenhouse gas emissions 9,762 tCO₂e per annum.

A.2. Eligibility of the project under approved PoA

>> The micro scale VPA NE-VPA-01-IND is added as the 1st VPA to the proposed PoA, Native Energy Hydrad BioSand Water Filter Programme South East Asia. NE-VPA-01-IND shall employ the Gold Standard methodology titled Technologies and Practices to Displace Decentralized Thermal Energy Consumption - 11/04/2011, Version 2.2.

PoA eligibility criteria:

Table 1: PoA Eligibility Criteria

Criterion	Requirements for Compliance	Evidences Required for CME validation	Demonstration of VPA Compliance
(a) The geographical boundary of the VPA including any time-induced boundary consistent with the geographical boundary set in the PoA	The VPA boundary shall be confined to national boundaries of host parties listed in section A.4.1.1 the PoA DD	Records of physical business location of the VPA implementer is within the specific host country	a) The geographical boundary of the VPA identified as NE-VPA-01-IND, Ranchi, Khunti and Gumla districts of Jharkhand state and Tamluk town of East Medinipur, North 24 Parganas and South 24 Parganas districts of West Bengal state of the Republic of India: which is a host party expressly provided for in section A.4.1.1 of the PoA DD as part of the PoA

		Partnership agreements between CME and VPA implementers binding the distribution of the zero energy water filtration units within any of the countries listed in section A.4.1.1. of the PoA DD.	project boundary. b) The CME shall upload the partnership agreement in the GS Registry.
(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo)	To prevent double counting of water filtration units distributed under the PoA, VPA operators shall ensure that the water filters are uniquely marked and shall provide assurances that they are not included in any other CDM or Voluntary GHG offset schemes outside of this PoA.	- Unique marking on each project technology (such as a serial number or batch number, which identifies it as part of the VPA) - Written attestation from the VPA operator or CME confirming that the project technologies distributed in the VPA are not part of any other CDM or Voluntary GHG trading scheme.	- Each filter distributed under NE-VPA-01-IND shall have a tag which identifies the filter assigning it a unique number which can be tracked against other data such as the end user name and location. - The CME has provided written attestation confirming compliance with the stated eligibility criteria
(c) The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications	All project technologies distributed in the PoA must demonstrate their ability to produce	Independent Third Party lab testing certificate demonstrating specific water treatment	A description of the Hydrad BioSand filter has been provided in section A. 2 of this VPA DD.

	potable water based on independent laboratory tests or field tests based on international standards and or protocols. In addition to this quality assurance the filters will also be required to provide a quantity of water which is greater than or equal to water consumption in the baseline scenario.	features such as a reduction in coliforms as compared to the raw water or; • Literature review from baseline surveys, laboratory tests describing the water quality of the project technology or; • Field test reports demonstrating specific water treatment features such as a reduction in coliforms as compared to the raw water. • Product description and specifications from manufacturer specifications	
(d) Conditions to check the start date of the VPA through documentary evidence	The start date for each VPA is defined as the earliest date at which either the implementation or construction or real action of a programme activity begins. The VPA start date however cannot be prior to the 05/12/2014 which is the date when the CME PoA DD initiated the Design Consultation.	• Start date of the VPA shall be evidenced from purchase order dates for project technologies distributed under the VPA or the date on which construction of project technologies began as evidenced using purchase orders for raw materials for construction or assembly of the project technologies	The VPA total Sales record shall be used as documentary evidence to prove that none of the filters included under NE-VPA-01-IND were distributed before the start date of the VPA.

(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodology/ies applied by VPAs	This PoA is bound by the provisions of the approved small scale Gold Standard baseline and monitoring methodology Thermal Practices to Displace Decentralized Thermal Energy Consumption. The methodology has five applicability conditions as defined in the scope and applicability of the methodology. These conditions are as follows:		
	1. The project boundary can 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).	Section A.4.1.2 of the VPA DD shall clearly describe the VPA boundary. The VPA implementer shall provide signed attestation to the effect that the project technologies have not been included in any other another voluntary market or CDM project activity.	The project boundary for NE-VPA-01-IND is defined as the domestic households in which the Hydrad BioSand Water Filter is installed. The project boundary is defined restricted to the larger target areas of Ranchi, Khunti and Gumla districts of Jharkhand state and Tamluk town of East Medinpur, North 24 Parganas and South 24 Parganas districts of West Bengal state of the Republic of India. Each filter distributed in these regions will have a unique number assigned to it. Records of installation and monitoring will be kept by the VPA operator installation team who

			installed it for easy access and to prevent double counting. Only project technologies with clearly labeled unique serial numbers shall be included in the project activity. The VPA implementer has availed a signed attestation to the effect that the project technologies have not been included in any other another voluntary market or CDM project activity
	2, The technologies each have continuous useful energy outputs of less than 150 kW per unit (defined 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 baseline scenario, the 150 kW threshold applies to the displaced baseline technology.	The VPA implementer shall use the equation provided in Section D.1.1 of this PoA DD in paragraph 5 to demonstrate that each baseline stove had a thermal output of less than 150 kW.	Each project technology distributed in this VPA shall replace baseline technologies with a 16.85 kw thermal output of kW. This has been justified section B. 2 of this VPA DD following this eligibility criterion.
	3. The use of the baseline technology as a	The CME shall provide improved technologies in the project boundary at	The baseline technology identified is the use of wood stoves to boil

	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.	discounted prices to encourage their use and discontinue use of the baseline technologies.	water. The use of this traditional thermal energy source is not however limited to boiling water as thermal energy output of wood stoves is also used for other functions most important of which is cooking. It will therefore not be possible to encourage households to surrender the woodstoves in exchange for the project technology nor is it assumed that there shall be complete abandonment of the stoves. The assumption in the ex-ante stage however, is that these households will completely abandon the practice of boiling water in the project scenario which shall be monitored and accounted for in the project scenario to calculate project scenario fuel consumption and the emissions thereon. The project technology is sold at subsidized costs. The main aim of attaching the monetary value to the project technology is to encourage a sense of ownership and responsibility to care for the filters by the end user. However, the households that cannot afford this cost of 300 rupees are able to get the filter at whatever amount of money they can afford.
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	4. 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.	The VPA Implementer will provide templates which shall be used to communicate VER transfer from the end user to the PP. The templates applicable include a signed voluntary transfer agreement (waiver forms) or leaflets distributed with the project technology.	NE-VPA-01-IND is operated by an individual VPA operator and fully understands that it has ceded all emission reductions realized by the VPA to the CME. Templates of the VER transfer shall be availed to the households during installations for signing.
	5. 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.	This PoA shall not make use of new biomass feedstock in the project boundary. This applicability condition is therefore not applicable.	This condition is not applicable to this VPA.
(f) The conditions that ensure that VPAs meet the requirements pertaining to the demonstration of additionality	All the Voluntary project activities in this PoA are deemed additional as outlined in section A.4.3 of this PoA DD. The VPA shall therefore be required to adhere to the criterion and demonstrate clearly that the water filters distributed in the project boundary do not surpass the	- The PP shall clearly indicate the GHG abatements of each filter in the VPA DD in a year. - The PP shall also clearly indicate if the VPA is regular or retroactive in the VPA DD.	The start date of this VPA is defined as 13/01/2018, which is the date of the first filter sale, and thus the implementation of the project activity. As a regular project cycle project activity the VPA start date is after the PoA start date marked on the 05/12/2014. Each filter in this VPA shall have GHG abatement of 6.5tCO₂ per year.

	GHG abatements of 600 t CO ₂ e per year. Retroactive projects shall demonstrate additionality based on the latest CDM tool for the demonstration of additionality at the time of their inclusion into the PoA.		
(g) The PoA-specific requirements stipulated by the CMEs including any conditions related to undertaking local stakeholder consultations.	Under the proposed PoA, Local stakeholder consultation shall be conducted at the VPA Level.	The VPA operator will describe the LSC in section C of the VPA DD.	A local stakeholder consultation was conducted and reported in Section C of this VPA DD.
(h) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation)	The intended target groups of the project technologies distributed under this PoA are households which use non-renewable biomass in the form of wood for thermal energy required to boil water or those who consume raw water in a situation of suppressed demand.	VPA operator shall describe distribution Method (s) as evidence of plans to reach target programme population as well as baseline surveys confirming that households in the target area have the stated baseline characteristics of raw water consumption or boiling water.	The VPA Operator has provided a distribution plan which will be used to reach the target population in the project activity. The VPA Operator also executed baseline surveys to determine the baseline characteristics of the households to determine the target population.
(i) Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/standard from the Gold Standard methodology.	Sampling will be conducted at the VPA level to justify ex-ante and ex-post parameters of interest.	The PP will provide baseline reports which justify the sampling efforts compliance with the provisions of the Gold Standard methodology.	The VPA operator conducted baseline surveys in 150 Households within the project boundary which justify the sampling compliance with the provisions of the Gold Standard Methodology. Baseline surveys shall be provided to justify this.
(j) Where applicable, the conditions that ensure that VPA in aggregate meets the	The annual sum of GHG's in tCO ₂ e abated per year	VPA implementers shall not include	NE-VPA-01-IND will realize average emissions reductions of 9,762 TCO ₂

micro-scale threshold criteria and remain within those thresholds throughout the crediting period of the VPA	shall not exceed 10,000 tCO ₂ e. Compliance will this cap shall be expressed as a maximum number of units within the VPA based on the GHG abatement per project technology.	project technology sales above pre-determined sales caps. CME shall be responsible for monitoring compliance with this criterion. Emissions reductions calculation spread sheets shall feature calculations to demonstrate that the sales caps are within the 10,000 t CO ₂ cap.	per annum which below the 10 kilo ton threshold.
(I) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance	Under this PoA, VPA operators shall be required to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance	• Individual VPA operators shall sign ODA declarations for VPAs implemented by them to prove that no funding has been sought from Annex 1 parties • Where funding is sought from Annex 1 parties the ODA declaration shall be supported by details regarding Annex 1 funding that affirms that the funding doesn't divert ODA	NE-VPA-01-IND shall not receive any public funding for the project activity and the VPA operator has signed an ODA declaration as an affirmation of the same.

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

>> NE-VPA-01-IND is operated by an individual VPA operator and fully understands that it has ceded all emission reductions realized by the VPA to the CME. Sample copies of the VER transfer shall be availed to the households during installations for signing.

A.4. Location of project

A.4.1. Host Country

>>The Republic of India

A.4.2. Region/State/Province etc.

The VPA will be implemented in the following districts in the states of West Bengal and Jharkhand in the Republic of India:

Table 2: table showing the project boundary

State	District	Coordinates
Jharkhand	Ranchi	23.3500° N, 85.3300° E
	Khunti	23.0140° N, 85.2724° E
	Gumla	23.0000° N, 84.5000° E
West Bengal	Tamluk	22.3000° N, 87.9200° E
	North 24 Parganas	22.1300° N, 88.5000° E
	South 24 Parganas	22.5300° N, 88.3300° E

A.4.3. City/Town/Community etc.

>> The project will be implemented in Districts of Ranchi, Khuni, Gumla, Tamluk, North 24 Parganas and South 24 Parganas regions of the Republic of India.

A.4.4. Physical/Geographical location

>> The Republic of India

The Hydraid BioSand Water Filter

The Hydraid BioSand Water Filter is an effective and sustainable point of use water filtration system that provides a family of 8 – 10 persons in developing countries with enough safe water to meet all their daily domestic water consumption needs.

The project technology is based on patented technology¹ and diligent research. Native Energy, the filter distributor, possesses a global network of partners for installation, education, maintenance and support and has the potential to bring the same health gains seen in US cities in the early 20th century to individuals, families and communities in developing countries, with the potential to save a million or more lives annually.

The water filter consists of enclosed layers of sand, gravel and a biological surface layer that consumes pathogens to clean water. It has no moving parts and is powered by gravity. The water filter has a conservative lifetime of 10 years².

Slow Sand Filtration (SSF) technology has been used to treat the drinking water of many European and American cities over the last 200 years³. Introduction of SSF to American cities in the early 20th century was the primary factor responsible for the massive declines in infant mortality and associated waterborne diseases.

The Hydraid unit offers an affordable, efficient and easy-to-use alternative for water purification within the areas in which the project activity is located.

¹ Hydraid: <http://www.hydraid.org/sol/why.htm>

² Hydraid User Installation Manual: <http://www.hydraid.org/sites/default/files/documents/installation-manual-english-2013-02-04-cb-edits.pdf>

³ Black and Veatch:
http://www.bv.com/news_3_publications/reports_3_studies/20060301_1.aspx



Figure 1: HydrAid bio Sand filter and safe water collection pot

The benefits of the BioSand Water Filter include⁴:

- Proven removal of parasites, viruses and bacteria;
- High user acceptability, due to ease of use and minimal effect on water taste;
- Includes materials that are locally sourced;
- One-time installation with minimal maintenance needed; and
- Long life (10+ years).

A.6. Scale of the project

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This project is a Microscale project. It follows the methodology guidelines "Projects are eligible under the micro-scale scheme if the annual emission reductions achieved are limited to a maximum of 10,000 tonnes of CO₂e in each and every year of the crediting period or as defined within respective Activity Requirements. 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 CO₂ per year".

A.7. Funding sources of project

>> The project does not receive public funding. To attest to this fact the VPA operator has signed an ODA declaration as proof that the project activity will not divert any public funds intended for developmental assistance.

⁴ Household Water Treatment and Safe Storage Options in Developing Countries: A Review of Current Implementation Practices

http://s189535770.onlinehome.us/pottersforpeace/wp-content/uploads/household_water_treatment.pdf

Assessment that project complies with 'gender sensitive' requirements

STEP 1: BASIC CONTEXT

Question 1:

Does the project reflect the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy? Explain how.

Yes

In ensuring gender sensitive design and implementation, the project activity shall address any gender inequalities and gender-related risks that may be identified in project gender analysis.

Gender-sensitive approaches in stakeholder consultation will also be ensured. Both men and women will be given equal opportunities to participate in the project.

Project will also ensure equitable information sharing with women and men stakeholders, which will be made available and presented in an accessible format and an understandable language across all stakeholder groups including marginalized groups.

The stakeholders will also be given an opportunity to share information in a two-way exchange, give regular feedback during implementation and ensure their views and priorities are incorporated in project design and implementation.

The project will also be required to provide measurable indicators potentially aligned to the related SDG goals identified that measure gender-related gaps and risks for the project.

The project will also take initiative to innovatively increase empowerment opportunities for women in India.

Question 2:

Does the project align with existing country policies, strategies and best practices? Explain how.

Yes.

The project will ensure adherence to established Gender policy and strategies in India as outlined below:

Host Party		National Policy related to Gender sensitivity
1.	India	There is no gender policy India however there is National Policy for Women 2016, Articulating a vision for Empowerment of Women (Draft). The objectives of the policy are⁵: Creating a conducive social-cultural, economic and political environment to enable women to enjoy <i>de jure</i> and <i>de facto</i> fundamental rights and realize their full potential. Mainstreaming gender in all-round development processes/ programs/ projects/ actions. A holistic and life-cycle approach to women's health for appropriate, affordable and quality health care. Improve and incentivizing access of women/ girls to universal and quality education. Increasing and incentivizing work force participation women in the economy. Equal participation in the social, political and economic spheres including the institutions of governance and decision making. Transforming discriminatory societal attitudes, mindsets with

⁵ https://wcd.nic.in/sites/default/files/draft%20national%20policy%20for%20women%202016_o.pdf

		community involvement and engagement of men and boys. Developing gender sensitive legal judicial system Elimination of all forms of violence against women through strengthening of policies, legislations, programmes, institutions an community engagement. Development and empowerment of women belonging to the vulnerable and marginalized groups. Building and strengthening stakeholder participation and partnerships for women empowerment. Strengthen monitoring, evaluation, audit and data systems to bridge gender gaps.
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STEP 2: APPLY GOLD STANDARD SAFEGUARDING PRINCIPLES

Question 3:

Does the project address the questions raised in the Gold Standard Safeguarding Principles & Requirements document? Explain how.

Yes.

The project seeks to promotes gender equality and the empowerment of women. The project shall neither contributes to discrimination against women nor shall it reinforce gender-based discrimination and/or inequalities. The water filtration project will contribute significantly towards the empowerment of women by reducing the burden they face in search of fuelwood and clean water whilst providing job and training opportunities. Gender equality will also be attained by ensuring that both men and women will have equal opportunities to jobs created, trainings and decision making activities for the project including stakeholder consultations, training workshops and seminars.

The project will further ensure that both men and women benefit from the project through indiscriminate access and distribution of water filters. without any form of bias based on gender, race, religion, sexual orientation or any other basis.

Employment opportunities will also be available to both men and women and project shall ensure equal pay for equal value of work.

The project activity will distribute zero energy filters which will displace the practice of boiling water in the households. This will consequently reduce the level of indoor air pollution in the households and all health impacts associated with indoor air pollution.

STEP 3: CONDUCT STAKEHOLDER CONSULTATION

Question 4:

Does the project apply the Gold Standard [Stakeholder Consultation & Engagement Procedure, Requirements & Guidelines](#)? Explain how.

The CME for the project conducted stakeholder Consultation and engagement procedures, through the local support partner held 2 local stakeholder consultation live meetings in the 2 states of Jharkhand and West Bengal that form part of the project boundary. The meeting at Jharkhand was held on the 8th December 2014 at the Biosand Water Filter Project Campus, Tiril Dela Toli Kokar, in Ranchi District. The meeting in West Bengal was held on the 5th December 2014 at The Assembly of God Church Towers. Local stakeholders were invited through personal invitation letters, invitation cards (delivered by hand), emails and strategically placed posters. Non-Technical Summary of the project was sent with the invitation.

SECTION B. Application of selected approved Gold Standard methodology

B.1. Reference of approved methodology

>> Title: 'Technologies and Practices to Displace Decentralized Thermal Energy Consumption - 11/04/2011, Version 2.2⁶.

Reference is the Gold Standard Website⁷ that recommends the baseline and monitoring methodologies that should be applied for various projects.

B.2. Applicability of methodology

Methodological compliance with the 150 KW requirements:

The project activity seeks to displace the use of woody biomass used in the baseline scenario to provide thermal energy for boiling water. As each filter is distributed on a household basis equations to determine the amount of energy displaced in the baseline shall be back calculated depending on the amount of thermal energy required by each household to boil water in the baseline scenario using water consumption rates in the project scenario and multiplied by the number of filters which the project activity seeks to displace.

$$150 \text{ kW} > \frac{\text{HG}_{b,y} \times \text{CFTJ/kWh}}{\text{HR(D,H)}}$$

Where:

$\text{CF TJ/KWh}^8 = 277,777.78$

$\text{HG}_{b,y}$ = Thermal energy output per liter of water boiled * amount of water boiled per household/end user per day and is calculated as follows:

$\text{HG}_{b,y} = (\text{WFC} * \text{N}) * \text{NCV} * \text{E cook stove}$

Where⁹:

WFC = Wood fuel consumption in tonnes for every liter of water boiled (0.000395373)

TWFC = Total Wood fuel consumption in tonnes for water boiled per household (0.001976867)

NCV = Net calorific value of wood fuel (112 TJ/tonne)

$\text{E}_{\text{cook stove}}$ = efficiency cook stoves used in the baseline scenario (0.10 AMS-II.G default for traditional cook stoves)

N = Number of liters of safe water provided in the baseline scenario (5 liters¹⁰ * Number of persons per household¹¹)

⁶ http://www.cdmgoldstandard.org/wp-content/uploads/2011/10/GS_110411_TPDDTEC_Methodology.pdf

⁷ Gold Standard
http://www.cdmgoldstandard.org/fileadmin/editors/files/6_GS_technical_docs/manuals_and_methodologies/110411_TPDDTEC_Methodology.pdf⁷

⁸ Conversion factor from TJ to KWh: <http://www.convertunits.com/from/TJ/to/kilowatt+hours>

⁹ The included in the calculations herein are for demonstration purposes only. The proposed PoA does not have standardized baselines and these values were obtained from baseline testing from NE-VPA-01-IND the first VPA for inclusion in the proposed PoA

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HR = Number of hours in a year in which water is treated in the baseline scenario (365 hours¹²)

To calculate thermal output per baseline technology the following formula shall be used:

The equation above is a modification on the Gold Standard methodology "Thermal energy from plant oil for the user of cooking stoves" which provides the equation to calculate thermal energy from cook stoves as follows:

$$HG_{y,i} = FC_{VO,i,y} * NCV_{veg,i} * 10^{-3} * \eta_{thVO,i} \quad (\text{Equation 4 of the said methodology})$$

Where:

HG_{y,i} = Net quantity of heat supplied by the project activity during the year y on basis of vegetable oil "i"

FC_{vo,i,y} = Total quantity of vegetable oil type i used per year by oil stoves in the project

NCV_{veg, i} = Net calorific value of vegetable oil type "i" (TJ/Gg)

nthVO_i = Efficiency of the plant using vegetable oil 'i'

Step 1:

Given that the fuel used in the project scenario is Ligneous Fuel rather than Vegetable oil, the NCV used shall be that of wood fuel which is itself provided for in the Gold Standard methodology as 112 TJ/tonne. Because the NCV is provided for in TJ/tonne there shall be no need to multiply by 0.001 as is provided for in the vegetable oil methodology owing to the fact that the NCV in that methodology is provided for in TJ/Gg.

Step 2:

To calculate the total amount of wood fuel used, the equation shall be modified from parameter FC_{vo,i,y} to that of a function of parameters WFC and N which are defined as the amount of wood required to boil one liter of potable water (WFC) which is defined from the Water Boiling Tests and the number of liters of safe water provided in the baseline scenario also derived from baseline studies.

Step 3:

To determine the efficiency of the stoves used in the baseline scenario, the PP has used the default value derived from the SSC CDM baseline and monitoring methodology AMS-II.G version 5.

After this modification the equation to calculate the net thermal energy provided by each baseline unit is calculates as follows:

$$HG_{b,y} = WFC * N * NCV * E_{cookstove} \quad 13$$

Where:

WFC = Wood fuel consumption in tonnes for every liter of water boiled (0.0003953 tons)

NCV = Net calorific value of wood fuel (112 TJ/tonne)

E_{cook stove} = efficiency cook stoves used in the baseline scenario (0.10 AMS-II.G default for traditional cook stoves)

N = Number of liters of safe water provided in the baseline scenario (Litres per person day¹⁴ * Number of persons per household¹⁵)

Conservative estimate that shall be verified during annual monitoring of daily per capita water consumption.

¹¹ Baseline surveys India

¹² Conservative estimate of one hour

¹³ Total thermal energy has been calculated by slight modifications on Equation 4 of the Gold Standard methodology "Thermal energy from plant oil for the user of cooking stoves" Version 1.0 last seen on 13th January 2013 at http://www.cdmgoldstandard.org/wp-content/uploads/2011/10/Thermal_energy_from_plant_oil.pdf

Step 4:

Upon calculating the net thermal output of each baseline unit in TJ a new equation is introduced to calculate the output in kW. The conversion of TJ to kWh is available from online conversion calculators but thereafter there has to follow a conversion of the kWh to kW which is calculated by converting the kWh output by the number of hours per year in which the baseline unit is used as follows:

$$150 \text{ kW} > \frac{\text{HG b,y} \times \text{CF}_{\text{TJ/kWh}}}{\text{HR(D.H)}}$$

Where:

CF TJ/kWh = 277,777.78¹⁶

HG b,y = Thermal energy output of the baseline appliance.

HR (D.H) = Number of hours in a year in which water is treated in the baseline scenario (365hours¹⁷)

The kilowatt output per unit is 16.85 kW.

¹⁴ http://www.who.int/water_sanitation_health/emergencies/qa/emergencies_qa5/en/

¹⁵ Baseline surveys India

¹⁶ <http://www.convert-measurement-units.com/conversion-calculator.php?type=energy>

¹⁷ The number of hours per year was derived from a 365 calendar year multiplied by the number of hours per day that respondents admitted to boiling water in the baseline scenario.

B.3. Project boundary

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Figure 2: Illustration of Project Boundary

For the purpose of GHG mitigation/sequestration following table shall be completed (delete if not required)

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Emissions from combusting non-renewable woody biomass	CO ₂	Yes	Important source of emissions
		CH ₄	Yes	Important source of emissions
		N ₂ O	Yes	Important source of emissions
Project scenario	Emissions from combusting non-renewable woody biomass	CO ₂	Yes	Important source of emissions
		CH ₄	Yes	Important source of emissions
		N ₂ O	Yes	Important source of emissions

B.4. Establishment and description of baseline scenario

>> The baseline scenario is the existing kitchen practice of boiling water to treat water for consumption on stoves using non-renewable biomass (firewood). The project activity displaces the use of fuel wood, associated with anthropogenic emissions, used to boil drinking water with zero emission water purifiers within the stated project boundary as well as households who drink untreated water but would boil water if barriers to access to fuel were removed.

Baseline Survey

Pursuant to methodological requirements, the VPA operator conducted baseline surveys to quantify parameters of interest used to calculate baseline emissions and accurately determine the baseline situation.

Baseline Survey Representativeness

The baseline survey requires in person interviews with a robust sample of end users without project technologies that are representative of end users targeted in the project activity. The baseline survey was therefore conducted in 150 households in the project boundary.

Baseline Survey Sample Sizing:

The baseline survey should be carried out for each baseline scenario using representative and random sampling, following these guidelines for minimum sample size:

Group size <300: Minimum sample size 30 or population size, whichever is smaller

Group size 300 to 1000: Minimum sample size 10% of group size

Group size > 1000 Minimum sample size 100

The group size for the project activity is 1000 filters which would require a minimum sample size of 100. A total of 150 households were interviewed. The following areas in the project boundary were surveyed:

REGION	DISTRICTS
Jharkhand	Ranchi

	Khunti
	Ghumla
West Bengal	Tamluk town, East Medinipur
	North 24 Parganas
	South 24 Parganas

Data Collected:

The data collected is specific to the characteristics of each baseline scenario, and should be tailored to each scenario in a given project to gather information about each of the following:

1. User follow-up

Requirement	Applicability to the Baseline Survey
Address or location	A location of users was used rather than an address which was not applicable to the project scenario. Household location data was specified at the interview stage and recorded in the survey data in electronic spread sheets
Mobile telephone number and/or landline telephone number (when possible)	Not used

2. End user characteristics

Requirement	Applicability to the Baseline Survey
Number of people served by baseline technology	Survey questionnaires included a specific questions to assess the number of people in the household
Typical baseline technology usage patterns and tasks (commercial, institutional, domestic, etc.)	Spot check confirmation that only households were used therefore excluding other technology usage patterns from the project activity.

3. Baseline technology and fuels

Requirement	Applicability to the Baseline Survey
Types of baseline technologies used and estimated frequency	Dedicated question to assess baseline technologies and frequency of use.
Types of fuels used and estimated quantities	Types of fuel used but it was difficult for users to approximate the quantity dedicated to boiling activities relevant to the project activity (for woody biomass only).
Seasonal variations in baseline technology and fuel use	Seasonal variations are assessed in fuel consumption patterns varying through rainy seasons.
Sources of fuels; (purchased or hand-collected, etc) and prices paid or effort made (e.g. walking distances, persons collecting, opportunity cost)	Sources of fuel were assessed with binary options of fuel collection or purchase. Efforts made were also assessed with dedicated questions to the average distance travelled to acquire baseline fuels

Renewability and non-renewability indicators as required by Annex 1	Option A 1.3 of the methodology NRB Assessment similar to approach of CDM methodology AMS-II.G. This approach is premised on literature review which requires no renewability or non-renewability indicators.
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Baseline Scenario Fuel Consumption Calculation

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 below as $Q_{p,y} + Q_{p,rawboil,y}$). This total is assumed to be equivalent to water boiled in the baseline.

$B_{p,y}$ = Number of person-days x Baseline Fuel used to Treat Water (T/L) x Total Safe Water consumed in project scenario (L/p/d)

$$B_{p,y} = (1 - C_j) * N_{j,y} * W_{i,y} * (Q_{j,y} + Q_{j,rawboil,y}) \quad (1.)$$

Where:

$N_{j,y}$ Number of person days consuming water supplied by project scenario p through year y

C_j Expressed as a percentage, this is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it

$B_{b,y}$ Quantity of fuel consumed in baseline scenario b during the year y in tons

$Q_{p,y}$ 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 water boiled in the project scenario p per person per day

$W_{b,y}$ Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test.

Where:

$U_{p,y}$ Cumulative usage rate for technologies in project scenario p during year y, based on cumulative installation rate and drop off rate.

All the stated parameters were quantified through baseline surveys except the parameter $W_{b,y}$ which was quantified using the Water Boiling Test conducted as follows:

The baseline water boiling test (BWBT) is conducted to calculate the quantity of fuel required to purify by boiling one litre of water for 10 minutes using technologies and fuels representative of the baseline scenario ($W_{b,y}$). The BWBT should be conducted using the 90/30 rule for selection of samples, accounting for variability in the types of prevalent baseline technologies.

If the 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.

General Procedure:

- All the required materials for the baseline testing is prepared including water and wood fuel
- Temperature of water before boiling is measured and recorded

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- 1 litre of water in pot measured using 1 L measuring cup and recorded.
- Picture taken of stove
- Fire is lit using local practices to rapidly ignite the fire
- Timing begins at the time the pot with water is placed on the fire.
- Time and temperature of water recorded at roiling boil.
- Boiling allowed continuing for 5 minutes after beginning of roiling boil.
- Water temperature recorded just before end of 5 minute boil using clinical mercury thermometer
- Time recorded at end of 5 minute boil.
- Pot removed from fire and remaining wood and large coals moved aside to allow for cooling.
- Remaining wood measured using digital scale and recorded and verified by picture.

Testing:

1. Prepare the timer, water, pre-weighed bundle of wood, standard pot and materials to light fire.
2. Fill in the data collection sheet
3. Using the tong place the thermometer mid-level between the surface of the water and bottom of the pot.
4. Fire to be started in a replicable manner
5. Once fire has caught and the pot placed on the stove the timer should begin
6. Bring water to a rapid boil. This was to be done by local practices used to fan stoves without excessively consuming fuel wood.
7. Once water reaches the local boiling point record time
8. Remove the water and extinguish flames by using sand or ash but not water as it will have an effect on the weight of wood.
9. Knock out all loose charcoal.
10. Weigh all the unburned wood

Sample Test Results:

Table 3 : Water Boiling Test Summary

Parameter	Value	Percentage
Households Tested using wood (BWBT)	150	100%
Total Households surveyed (Baseline Surveys)	150	100%
Total household tested	150	100%

Demonstration of additionality

>> Additionality has been demonstrated at the micro-programme level. PoA level additionality has been developed on the sole argument of each of the project sub systems being less than 600 tCO₂e. As is demonstrated in the attached emissions reductions spread sheet the emissions reductions per filter total 6.5tCO₂e which is far less than the 600 tCO₂e *limit*.

B.5. Sustainable Development Goals (SDG) outcomes

B.5.1. Relevant target for each of the three SDGs

>>

Table 4: table showing SDGs

Indicator	Mitigation measure	Relevance to achieving SDG Target	Chosen Monitoring Indicator and explanation
3.9.1 Illnesses and Mortality rates attributed to household and ambient air pollution	No mitigation measure	Conforms to: SDG 3: Ensure healthy lives and promote well-being for all at all ages Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination Indoor air pollution caused by combustion of wood fuel will be reduced since there will be no more boiling of water.	Measurement of user perceptions between the baseline and project scenario: smoke levels, incidence of coughing, incidence of respiratory illness, and incidence of itchy eyes. <u>Perceived change in air quality</u> The VPA DD shall describe how the introduction of the project technology will achieve an improvement on the chosen indicator.
3.9.2 Illnesses and Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)	No mitigation measure	SDG 3: Ensure healthy lives and promote well-being for all at all ages Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. Using the project technology will provide the households with safe water for consumption hence reduce exposure to water borne diseases	<u>Levels of coliforms in drinking water:</u> <u>The VPA DD shall describe how the introduction of the project technology will achieve an improvement on the chosen indicator.</u>

6.1.1 Proportion of population using safely managed drinking water services	No mitigation measure	SDG 6: Ensure availability and sustainable management of water and sanitation for all Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all Deaths and diseases caused by water borne diseases will be reduced since clean water is readily available. General health of the family will be improved.	<u>Volume of safe water consumed in the project scenario</u> The project shall monitor the volume of safe water treated by the project technology and consumed by households in the project scenario.
6.b.1 Participation of local communities in water and sanitation management	No Mitigation measure	Target 6.b(1): Support and strengthen the participation of local communities in improving water and sanitation management. The VPA operator will organize trainings and workshops for recruited Community Health Workers and Surveyors who shall take part in installation and maintenance of the filters and monitoring surveys. This will seek to sensitize locals on how to maintain the filters to enhance the quality of water, hygiene and sanitation.	<u>Number of people trained on water, hygiene and sanitation improvement</u> The PP shall monitor the number of people attending trainings, seminars or workshops organised by the project on water, hygiene and sanitation improvement

8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	No mitigation measure	SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all Target 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. The project activity will provide job opportunities for all locals irrespective of gender or any other status. Equal pay for work of equal value will be made to both men and women. This water filtration project will provide job opportunities for the locals both during project implementation and monitoring activities.	<u>Number of persons employed by the project</u> <u>Employment Records</u> The VPA DD shall describe how the introduction of the project technology will achieve an improvement on the chosen indicator. Income generation: <u>Records of income generated by employees enrolled in the project activity.</u> The VPA DD shall describe how the introduction of the project technology will achieve an improvement on the chosen indicator.
13.3.2 Systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions	No mitigation measure	SDG 13: Take urgent action to combat climate change and its impacts Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. The project technology attracts energy cuts across all the above SDGs and with clean energy the following are reduced; poverty, hunger, health is improved, and diseases are combated, and	<u>Change in Traditional fuel consumption (% of total energy requirements)</u> <u>Surveys</u> The VPA DD shall monitor emission reductions achieved by the project.

		environmental sustainability maintained.	is	
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B.5.2. Explanation of methodological choices/approaches for estimating the SDG outcome'

>> The methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" has been used for this project. Annex 3 of the methodology is dedicated to safe water supply scenarios such as will be implemented in the project activity.

SDG 3: Good health and well being

Indicator: Quality of water, Perceived Indoor air pollution

According to WHO, Indoor Air Pollution (IAP) is one of the leading causes of premature deaths in developing countries. Exposure to smoke from cooking fires causes 3.8 million premature deaths each year, mostly in low and middle-income countries who commonly use fuel such as wood, coal, and dung in inefficient cookstoves. This in turn produces harmful pollutants such as methane, carbon monoxide, polyaromatic hydrocarbons and volatile organic compounds. Many studies have demonstrated a direct relationship between exposure to particulate matter and negative health impacts. Exposure to IAP can lead to health problems in both children and adults from respiratory illnesses, eye problems and cancer¹⁸.

Introduction of zero energy water filters which provides clean water without requiring of boiling contributes to reduction of IAP. Households in developing worlds rely on boiling as one of water purification methods using biomass as a source of wood. This in in turn leads to IAP which could lead to various illnesses.

Improved health will be checked though reduction of water borne diseases as well as reduced smoke levels. During the monitoring survey exercise, households will be asked questions to ascertain the extent to which filters have contributed to reducing water borne diseases and results recorded and reported. It is estimated that the projects will achieve 70% reduction of water borne diseases and 60% reduction in smoke levels (perceived change in air quality).

Estimated Net benefit will be calculated as follows:

Project scenario- baseline scenario

Reduction in water borne diseases:

$$70\% - 0\% = 70\%$$

Perceived change in air quality

$$60\% - 0\% = 60\%$$

SDG 6: Clean water and sanitation

Indicator: Quality and Quantity of water, trainjgs on water, sanitation and hygiene

¹⁸ <https://www.who.int/airpollution/household/health-impacts/en/>

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Globally, nearly 2 billion people either consume water from un-improved water sources or improved water sources with faecal contamination. Close to half a million diarrhoea deaths in low- and middle income countries are attributed inadequate drinking water especially among children under 5. As a result, households water treatment and safe water storage is an important health intervention as a way of reducing water borne diseases especially amongst people who depend on water from unsafe water sources or contaminated water from safe water sources

Clean water and sanitation will be monitored through conducting water quality tests where the water samples are expected to adhere to the countries water quality standards or WHO standards in absence of water quality standards.

PP has estimated the project will achieve the following:

Q_{p,y}- 5 litres per person per day

Q_p rawboil, y -0

Q_p clean boil, y-0

Number of people trained on water, sanitation and hygiene- 10

Estimated Net benefit will be calculated as follows:

Difference between baseline scenario and project scenario

Q_{p,y}

5-0=5 litres

Number of people trained

10-0= 10 people trained

Q_p raw boil

0-0=0% (assumed no one will boil water in the project scenario)

Q_p Cleanboil

0/0=0% (assumed no one with boil water to further purify it in the project scenario)

The PP shall monitor the number of trainings, seminars or workshops organised by the project on water, hygiene and sanitation improvement

SDG 8 Decent work and Economic growth

Indicator: jobs created by the project

According to the data released by Centre for Monitoring Indian Economy (CMIE) conducted in August 2019, Unemployment rate in urban areas stood at 9.6% while in rural areas the unemployment rate stood at 7.8%. The increase in labour participation is not matched with an increase in employment rate¹⁹

The project has estimated it will achieve the following;

¹⁹ <https://www.nationalheraldindia.com/india/unemployment-rate-at-3-year-high-in-august-2019-reveal-cmie-data>

Number of people employed – 5

Income generation - Average Monthly income is INR 10,000/- per employee Per Month

The project seeks to create employment opportunities in filter installation, distribution, maintenance and annual monitoring exercise. The jobs created will be monitored during the annual monitoring surveys.

Estimated Net Benefit will be calculated as follows:

Number of people employed:

$5 - 0 = 5$ people

Income generated:

$10,000 - 0 = 10,000$ INR

SDG 13 Climate Action

Indicator: Emission Reductions achieved

The hydraid water filter remove E.Coli which causes water borne diseases. By so doing there is Emissions are reduced as the filter displaces use of boiling as a water purification method. Emission Reductions will be monitored annuall and reported. Below is the explanation of how SDG 13 will be monitored.

N_{p,y} Number of person.days consuming water supplied by project scenario p through year y

VPA operators shall conduct baseline surveys to estimate the number of people per household. This value shall be multiplied by the number of days in which the project technology has been in operation beginning with the date of its installation

C_j Expressed as a percentage, this is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it

Baseline surveys shall establish the number of households which had access to safe water in the absence of the project activity. This population shall be excluded from the project activity using the correction factor C_j.

B_{b,y} Quantity of fuel consumed in baseline scenario b during the year y in tons

Wood fuel consumption in the baseline scenario shall be back calculated from project scenario water consumption. The total value of water consumed is the sum total of safe water supplied from the project technology as well as raw water boiled. A value has been established to quantify the wood fuel consumption to boil one litre of water.

Q_{p,rawboil,y} Quantity of raw water boiled in the project scenario p per person per day

It is assumed that after installation of the filter, none of the households will revert to boiling water. However, during the monitoring survey, a sample of the population identified in the Target Area that has already purchased the filters will be interviewed to analyze if any consumers still practice boiling of raw water for domestic consumptions.

$Q_{p, cleanboil, y}$ Quantity of safe water boiled in the project scenario p per person per day

During installation of the filter, the installer instructs the customer on the use and maintenance of the filter. The instructions are geared towards reduction of domestic fuel wood consumption and the impracticality of boiling water already treated by the bio sand filter. The value of this parameter is established at 0.

$W_{p, y}$ Quantity of wood fuel or fossil fuel in tons required to treat 1 litre of water using technologies representative of the project scenario p during project year y

A baseline water boiling test was conducted before the project activity began to accurately determine the wood fuel consumed to boil water in the typical baseline scenario

Leakage

The core of the methodology prescribes possible parameters that should be evaluated for leakage emissions.

- a) **The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.**

Traditional fuel wood consumption was mainly restricted to the domestic setting it is highly unlikely that fuel wood consumption in regions outside the target area will increase.

- a) **The non-renewable biomass or fossil fuels saved under the project activity are used by non-project users who previously used lower emitting energy sources.**

Fuel wood previously used was sourced or obtained individually and domestic fuel wood consumption is a function of market forces of demand and supply. There is no indication that the fuel wood consumption would increase amongst non-project users who previously relied on lower-emitting sources.

- b) **The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario.**

This is a micro-scale PoA and will hence have minimal aggregate effect on the total NRB fraction in respective countries in which the VPAs are to be implemented with regards to other CDM or VER project activities baseline scenario.

- c) **The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.**

Not applicable to the project activity.

- d) **By virtue of promotion and marketing of a new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.**

The Concrete Biosand Filter and the Hydrad BioSand Water Filter are zero energy technologies that will provide an alternative to boiling water using fuel wood. Most of the households targeted boiled water using fuel wood. There is no envisioned scenario where these consumers will substitute fuel wood to a technology with lower emissions because of promotion of the biosand filter.

Non-renewable biomass Fraction:

The methodology implemented by the project is "Technologies and Practices to Displace Decentralized Thermal Energy Consumption". According to Annex 1 of this methodology: "*Project proponents may*

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choose one of the following two options to estimate the fractional non-renewability of woody biomass fuels (f_{NRB}):

a) Adoption of the approach described in sections A1.1 and A1.2 below;

b) Adoption of the approach similar to CDM-approved methodology AMS II.G vo2, as developed in section A1.3 below"

The Project Proponent will adopt an approach similar to CDM approved methodology AMS.II.G vo2, as developed in section A1.3. Section A1.3 states that "the fraction of woody biomass saved by the project activity in year y that can be established as non-renewable is given by:

$$f_{NRB} = NRB / (NRB + DRB)$$

Calculations

>> Ex-ante emission calculations are calculated in attach emission reductions spread sheet.

Baseline fuel consumption

$$B_{b,y} = (1 - C_j) * N_{j,y} * W_{b,y} * (Q_{j,y} + Q_{j,rawboil,y}) \quad (Eq\ 1)$$

Non-Renewable biomass

$$f_{NRB} = NRB / (NRB + DRB) \quad (Eq\ 2)$$

Project Scenario Fuel Consumption

$$B_{p,y} = (1 - C_j) * N_{p,y} * W_{b,y} * (Q_{p,rawboil,y} + Q_{p,cleanboil,y}) \quad (Eq\ 3)$$

Baseline Emissions

$$B_{E,b,y} = B_{b,y} * ((f_{NRB,b,y} * E_{Fb,fuel,CO_2}) + E_{Fb,fuel,nonCO_2}) * NCV_{b,fuel} \quad (Eq\ 4)$$

Project Emissions

$$P_{E,p,y} = B_{p,y} * ((f_{NRB,p,y} * E_{Fp,fuel,CO_2}) + E_{Fp,fuel,nonCO_2}) * NCV_{p,fuel} \quad (Eq\ 5)$$

Emission Reductions

$$E_{R,y} = (\sum B_{E,b,y} - \sum P_{E,p,y}) * U_{p,y} - \sum L_{E,p,y}$$

Table 5: fuel consumption baseline scenario

Parameter	Description	Value
$N_{j,y}$	Number of person. Days consuming water supplied by project scenario p through year	2007.5
N	Average Number of people per household	5.5
X_d	Number of days water is boiled per year	365
C_j	Expressed as a percentage, this is the portion of users of the project technology j	0.7%

	who in the baseline were already consuming safe water without boiling it	
$W_{i,y}$	Quantity of charcoal in tons required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test.	0.000395
$Q_{p,y}$	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day	5
$Q_{p,rawboil,y}$	Quantity of raw water boiled in the project scenario p per person per day	0
$B_{p,y}$	3.940779915	

Table 6: Project Scenario Fuel Consumption

Parameter	Description	Value
$N_{j,y}$	Number of person.days consuming water supplied by project scenario p through year	2007.5
C_j	Expressed as a percentage, this is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it	0.7%
$B_{p,y}$	Quantity of fuel consumed in project scenario p during the year y in tons	0
$Q_{p,rawboil,y}$	Quantity of raw water boiled in the project scenario p per person per day	0
$Q_{p,cleanboil,y}$	Quantity of safe water boiled in the project scenario p per person per day	0
$P_{p,y}$		0

Table 7: Fixed Parameters

Parameter	Description	Value
$f_{NRB,b,y}$	Non-Renewable Biomass Fraction	0.91
$NCV_{b,fuel}$	Net calorific value of the fuel that is substituted or reduced	0.015
$EF_{b,fuel,CO_2}$	CO ₂ emission factor of the fuel that is substituted or reduced	112
$EF_{b,fuel,CH_4}$	CO ₂ emission factor of the fuel that is substituted or reduced	0.03
$EF_{b,fuel,N_2O}$	CO ₂ emission factor of the fuel that is substituted or reduced	0.004
GWP	Global Warming Potential of CH ₄	25 ²⁰
GWP	Global Warming Potential of N ₂ O	298

²⁰ <http://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values.pdf>

B.5.3. Data and parameters fixed ex ante for monitoring contribution to each of the three SDGs

Relevant SDG Indicator	SDG 13: Climate Action Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Data/parameter	EF _{b,fuel} ,CO ₂
Unit	tCO ₂ /TJ
Description	CO ₂ emission factor of the wood fuel
Source of data	IPCC Default emission factors ²¹
Value(s) applied	112
Choice of data or Measurement methods and procedures	IPCC default values provide an accurate and conservative estimate of emissions reduction from various fuel sources.
Purpose of data	CO ₂ emission factor of the wood fuel
Additional comment	N/A

Relevant SDG Indicator	SDG 13: Climate Action Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Data/parameter	EF _{b,fuel} ,CH ₄
Unit	tCO ₂ /TJ
Description	CH ₄ emission factor of the wood fuel
Source of data	IPCC Default emission factors ²²
Value(s) applied	0.03
Choice of data or Measurement methods and procedures	IPCC default values provide an accurate and conservative estimate of emissions reduction from various fuel sources.
Purpose of data	Calculation of CH ₄ emission factor of the wood fuel
Additional comment	N/A

Relevant SDG Indicator	SDG 13: Climate Action Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Data/parameter	EF _{b,fuel} ,N ₂ O
Unit	tCO ₂ /TJ
Description	CO ₂ emission factor of the wood fuel
Source of data	IPCC Default emission factors ²³
Value(s) applied	0.004

²¹ <http://www.ipcc.ch/meetings/session25/doc4a4b/vol2.pdf>

²² <http://www.ipcc.ch/meetings/session25/doc4a4b/vol2.pdf>

²³ <http://www.ipcc.ch/meetings/session25/doc4a4b/vol2.pdf>

Choice of data or Measurement methods and procedures	IPCC default values provide an accurate and conservative estimate of emissions reduction from various fuel sources.
Purpose of data	Determining CO ₂ emission factor of the wood fuel
Additional comment	N/A

Relevant SDG Indicator	SDG 13: Climate Action Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Data/parameter	f NRB _j
Unit	Fraction
Description	Non-Renewable Biomass
Source of data	Literature Review
Value(s) applied	0.91
Choice of data or Measurement methods and procedures	Baseline Survey
Purpose of data	Non-Renewable Biomass
Additional comment	

Relevant SDG Indicator	SDG 13: Climate Action Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Data/parameter	B _p
Unit	Tonnes
Description	Quantity of fuel consumed in project scenario p during the year y in tons
Source of data	Baseline Survey
Value(s) applied	To be Confirmed during the project scenario
Choice of data or Measurement methods and procedures	<i>This parameter will be fixed during the first verification review to fulfil an FAR raised by the GS during registration review</i>
Purpose of data	Determining Quantity of fuel consumed in project scenario p during the year y in tons
Additional comment	N/A

Relevant SDG Indicator	SDG 6: Clean Water and Sanitation Target 6.1 : By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Data/parameter:	C _j
Unit	Percentage
Description	This is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it.
Source of data	Installation surveys
Value(s) applied)	0.7%
Choice of data	This value represents the percentage of the population within the project

or measurement methods and procedures	boundary that consumed clean water without boiling it in the baseline scenario.
Purpose of data	Calculation of baseline and project emissions
Additional comments	The PP has provided supporting documents to demonstrate the Cj factor is 0.7% ²⁴

B.5.4. Ex ante estimation of outcomes linked to each of the three SDGs

>> Ex-ante emission calculations are calculated in attach emission reductions spread sheet.
Baseline fuel consumption

$$B_{b,y} = (1 - C_j) * N_{j,y} * W_{b,y} * (Q_{j,y} + Q_{j,rawboil,y}) \quad (\text{Eq 1})$$

Non-Renewable biomass

$$f_{NRB} = NRB / (NRB + DRB) \quad (\text{Eq 2})$$

Project Scenario Fuel Consumption

$$B_{p,y} = (1 - C_j) * N_{p,y} * W_{b,y} * (Q_{p,rawboil,y} + Q_{p,cleanboil,y}) \quad (\text{Eq 3})$$

Baseline Emissions

$$BE_{b,y} = B_{b,y} * ((f_{NRB,b,y} * E_{fb,fuel,CO_2}) + E_{fb,fuel,nonCO_2}) * NCV_{b,fuel} \quad (\text{Eq 4})$$

Table 8: Fuel consumption baseline scenario

Parameter	Description	Value
N _{j,y}	Number of person. Days consuming water supplied by project scenario p through year	2007.5
N	Average Number of people per household	5.5
X _d	Number of days water is boiled per year	365
C _j	Expressed as a percentage, this is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it	0.7%
W _{i,y}	Quantity of charcoal in tons required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test.	0.000395
Q _{p,y}	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day	5
Q _{p,rawboil,y}	Quantity of raw water boiled in the project scenario p per person per day	0
B _{p,y}	2.65893	

²⁴ GS 3698_Justification for Cj Factor and Water Quality Studies_VA_Oct215.xls

Table 9: Default values

Parameter	Description	Value
fNRB,b,y	Non-Renewable Biomass Fraction	0.91
NCVb,fuel	Net calorific value of the fuel that is substituted or reduced	0.015
EFb,fuel,CO ₂	CO ₂ emission factor of the fuel that is substituted or reduced	112
EFb,fuel,CH ₄	CO ₂ emission factor of the fuel that is substituted or reduced	0.03
EFb,fuel,N ₂ O	CO ₂ emission factor of the fuel that is substituted or reduced	0.004
GWP	Global Warming Potential of CH ₄	25 ²⁵
GWP	Global Warming Potential of N ₂ O	298

>> Summary of the ex-ante estimation of SDG Outcomes

Year	Estimation of project activity emission (tCO ₂)	Estimation of baseline emissions (tCO ₂)	Estimation of leakage (tCO ₂)	Estimation of overall emission reductions (tCO ₂)
1 st May 2019	0	4,553.46	0	4,553.46
2020	0	9,970.48	0	9,970.48
2021	0	9,970.48	0	9,970.48
2022	0	9,997.80	0	9,997.80
2023	0	9,970.48	0	9,970.48
2024	0	9,970.48	0	9,970.48
2025	0	9,970.48	0	9,970.48
2026	0	9,970.48	0	9,970.48
2027	0	9,997.80	0	9,997.80
2028	0	9,970.48	0	9,970.48
2029	0	3,277.97	0	3,277.97
Total (tCO ₂) average emissions	0	9,762	0	9,762

²⁵ <http://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values.pdf>

B.7 Monitoring plan

B.7.1 Data and parameters to be monitored

Relevant Indicator/Safeguarding Principle	SDG SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Data / Parameter	Up,y
Unit	Percentage
Description	Usage rate in project scenario p during year y
Source of data	Annual Usage Surveys
Value(s) applied	80%
Measurement methods and procedures	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.
Monitoring frequency	Monitored Annually
QA/QC procedures	Transparent Data Analysis and Reporting of Annual Usage surveys conducted. Detailed QA/QC procedures are included in the monitoring report
Purpose of data	Calculations of total Emission reductions
Additional comment	N/A

Relevant Indicator/Safeguarding Principle	SDG SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Data / Parameter	Quality of the treated water
Unit	80%
Description	This parameter will be used to determine the levels of coliforms in the treated drinking water
Source of data	Performance field tests conducted during project studies.
Value(s) applied	MPN
Measurement methods and procedures	Aquagenx CBT
Monitoring frequency	Monitored annually
QA/QC procedures	Using Aquagenx toolkit instructional manual for using the CBT. Additionally, conducting extensive training for the monitoring team with regards to the protocol for using the Aquagenx CBT.
Purpose of data	Sustainable Development assessment
Additional comment	N/A

Relevant Indicator/Safeguarding Principle	SDG SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Data / Parameter	Np,y
Unit	Person.days
Description	Number of persons consuming water supplied by project scenario p through year y
Source of data	Water consumption field test (WCFT)
Value(s) applied	1,825
Measurement methods and procedures	The date of installation of the filter shall be ascertained from the Total Sales record this shall be used to quantify the number of days in the crediting period within which the filter has been use. The Water consumption field test shall assess the number of household members who have been in use of the project technology.
Monitoring frequency	Biennially monitored
QA/QC procedures	The number of people living in a household during the water consumption field test exercise will be obtained to capture the differences in the household number of people throughout the year.
Purpose of data	Calculation of project emissions.
Additional comment	N/A

Relevant Indicator/Safeguarding Principle	SDG SDG 3: Good health and well being Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
Data / Parameter	Reduced number of water borne diseases (Skin rash, diarrhoea, foot sore and parasites) and Indoor Air Pollution related diseases/infections (itchy eyes, eye problems and incidence of coughing)
Unit	percentage
Description	This parameter will be collected to indicate the project contributes towards healthy lives and wellbeing.
Source of data	Monitoring Survey
Value(s) applied	Reduced water borne diseases 70% Perceived change in air quality 60%
Measurement methods and procedures	Numerical figures
Monitoring frequency	Annual
QA/QC procedures	PD shall submit monitoring survey summary records
Purpose of data	To monitor change in illnesses attributed to exposure to unsafe water, indoor air pollution and lack of sanitation and hygiene
Additional comment	To be monitored annually

Relevant Indicator/Safeguarding Principle	SDG SDG 6: Clean water and sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Data / Parameter	Q _{p,y}
Unit	Litres per person per day
Description	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day
Source of data	Water consumption field test (WCFT)
Value(s) applied	5 litres
Measurement methods and procedures	Water consumption field tests will be conducted biennially to establish the amount of safe water provided by the project technology. This test will be conducted based on a random sample drawn from the Total Sales Record.
Monitoring frequency	Biennially monitored
QA/QC procedures	Sampling procedure as defined in the general guidelines for sampling and surveys for small-scale CDM project activities ²⁶ .
Purpose of data	Calculation of project emissions. <u>To calculate volume of safe water consumed in the project scenario</u>
Additional comment	N/A

Relevant Indicator/Safeguarding Principle	SDG SDG 6: Clean water and sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Data / Parameter	Q _{p,rawboil,y}
Unit	Litres per person per day
Description	The raw or unsafe water that is still boiled after installation of the water treatment technology.
Source of data	Water consumption field test (WCFT)
Value(s) applied	0
Measurement methods and procedures	Water consumption field tests will be conducted biennially to establish the number of households who still boil water in the project scenario. This test will be conducted based on a random sample drawn from the Total Sales Record.
Monitoring frequency	Monitored Biennially
QA/QC procedures	Sampling procedure as defined in the general guidelines for sampling and surveys for small-scale CDM project activities ²⁷ .
Purpose of data	Calculation of project emissions.
Additional comment	N/A

Relevant Indicator/Safeguarding Principle	SDG SDG 6: Clean water and sanitation Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all
Data / Parameter	Q _{p,cleanboil,y}

²⁶ http://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid20.pdf

²⁷ http://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid20.pdf

Unit	Litres per person per day
Description	Quantity of safe (treated, or from safe supply) water boiled in the project scenario p, after installation of project technology
Source of data	Water consumption field test (WCFT)
Value(s) applied	0
Measurement methods and procedures	Water consumption field tests will be conducted biennially to establish the amount of water consumed after treatment using the Bio Sand filter in the project scenario. This test will be conducted based on a random sample drawn from the Total Sales Record.
Monitoring frequency	Biennially monitored
QA/QC procedures	Sampling procedure as defined in the general guidelines for sampling and surveys for small-scale CDM project activities.
Purpose of data	Calculation of project emissions.
Additional comment	The water quality tests will be conducted periodically with the Field Tests and surveys.

Relevant Indicator/Safeguarding Principle	SDG SDG 6: Clean water and sanitation Target 6.b: Support and strengthen the participation of local communities in improving water and sanitation management
Data / Parameter	Number of people attending workshops, seminars and trainings organised on water, hygiene and sanitation improvement
Unit	Number of people
Description	This parameter will be collected to indicate the project provides training and workshops to support and strengthen the participation of local communities in improving water and sanitation management.
Source of data	Training Records
Value(s) applied	10
Measurement methods and procedures	Training records
Monitoring frequency	Annual
QA/QC procedures	PD shall submit training records as a support document
Purpose of data	To determine number of people trained by the project on water, hygiene and sanitation improvement.
Additional comment	To be monitored annually

Relevant Indicator/Safeguarding Principle	SDG SDG 8: Decent Work and Economic growth Target 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
Data / Parameter	Number of people employed by the project
Unit	Number of people
Description	This parameter will be collected to determine average hourly earnings of female and male employees, by occupation, age and persons with disabilities
Source of data	Employment records
Value(s) applied	5
Measurement methods and procedures	Employment records

Monitoring frequency	Annual
QA/QC procedures	PD shall submit employment records as a support document
Purpose of data	To determine quantitative and qualitative employment opportunities created by the project.
Additional comment	To be monitored annually

Relevant Indicator/Safeguarding Principle	SDG SDG 8: Decent Work and Economic growth <i>Target 8.5:</i> By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
Data / Parameter	Income generation
Unit	Number of people
Description	This parameter will be assessed to analyse the income generated by employees enrolled in the project activity.
Source of data	Employment records
Value(s) applied	Average Monthly income is INR 10,000/- per employee Per Month
Measurement methods and procedures	Employment records
Monitoring frequency	Annual
QA/QC procedures	PD shall submit employment records as a support document
Purpose of data	To determine average hourly earnings of female and male employees, by occupation, age and persons with disabilities
Additional comment	To be monitored annually

Relevant Indicator/Safeguarding Principle	SDG SDG 13: Climate Action <i>Target 13.3:</i> Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Data / Parameter	Ers
Unit	tCO ₂ e per year
Description	Emission reductions achieved in project scenario p during year y
Source of data	Baseline and monitoring surveys
Value(s) applied	9,762 tCO ₂ e per year
Measurement methods and procedures	Calculations of emission reductions using methodological guidelines
Monitoring frequency	Annual.
QA/QC procedures	Proper data collection during monitoring survey exercise to ensure that Ers achieved are properly calculated
Purpose of data	Calculation of emission reductions achieved by the project per year.
Additional comment	N/A

Relevant Indicator/Safeguarding Principle	SDG SDG 13: Climate Action Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
Data / Parameter	LEp,y
Unit	tCO ₂ e per year
Description	Leakage in project scenario p during year y
Source of data	Baseline and monitoring surveys
Value(s) applied	0
Measurement methods and procedures	In accordance with the methodology an assessment of all project scenarios which would result in leakage emissions has been conducted. Accordingly, there are no potential leakage emission sources arising. However, this parameter will be monitored to analyse any variance in See section B.3 of this P.D.D.
Monitoring frequency	Parameter to be monitored every two years.
QA/QC procedures	There are no perceived leakage risks for this project as explained in section B.3 of the PDD.
Purpose of data	Calculation of project emissions.
Additional comment	N/A

B.7.2 Sampling plan

>> The following sampling plan has been developed to monitor the above parameters as per the methodological guidelines.

A total of 100 households were selected in the sampling frame. The following The following steps shall be applied

1. List all the geographical regions (villages) in the total sales record and list the number of project technologies sold in this region
2. Calculate a cumulative sum of all the project technologies sold, where the last number in this series shall be the total number of project technologies sold
3. A sample size of 100 has been determined for this project activity
4. The total number of project technologies shall then be divided by the sample size (100). The result shall be used to determine the Sample Interval.
5. At random a number between 1 and the Sample Interval (SI) shall be chosen this shall be held as the Random Start (RS)
6. Sample units (SU) which are defined as final recipients of the project technology shall be identified as follows
 - a. $SU_1 = RS$
 - b. $SU_2 = RS + SI$
 - c. $SU_3 = RS + 2SI$
 - d. $SU_n = RS + (n-1)SI$

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7. These sample units (SI) correspond to an identified household in the cumulative sales in the Total Sales Record

B.7.3 Other elements of monitoring plan

>> The following monitoring plan has been developed in accordance with Annex 3 of the Technologies and Practices to Displace Decentralized Thermal Energy Consumption (Section III).

1. Monitoring Procedure

The monitoring plan developed for this project requires the continuous and/or periodic updates to the following records;

- a) Total Sales Record
- b) Project (VPA) Database
- c) On-going Monitoring Survey

Total Sales Record and Project Database are to be updated continuously during the project life. On-going Monitoring Studies will be performed to measure or verify parameter values used in establishing ex ante emissions reductions calculations.

a) Total Sales Record

A sales record will be maintained for all filters distributed under NE-VPA-01-IND. To ensure accuracy of the records, at the time of installation an interview shall be conducted within the household of the installation to collect user characteristics. This information will be entered into a database shortly after the sale is made and the filter installed and will be maintained by Native Energy. The total sales record shall be in the prescribed format as laid out in section B.3 of the PoA DD.

b) Project Database

The Project Database is a combination of data from the Total Sales Record and Ongoing Monitoring Surveys.

The Project Database will be divided into Baseline Emission Reductions and Project Emission Reductions, based on the results of the On-going Monitoring Studies for the Project Scenario. This is done so that emission reductions can be calculated appropriately section by section. Technologies aged beyond their useful lifetime or no longer in use, as established in the usage survey, are removed from the Project Database and no longer credited. The project (VPA) database shall be in the prescribed format as laid out in section B.3 of the PoA DD.

c) On-going Monitoring Studies

The following on-going monitoring studies for the water purification project following validation of the associated initial project studies. These monitoring studies will investigate and define parameters that could not be determined at the time of the initial project studies or that change with time.

i) Monitoring Survey

Will be completed annually, beginning 1 year after project registration .

The Monitoring Survey will investigate changes over time in the Project Scenario by surveying end users with project technologies on an annual basis. It provides critical information on year-to-year trends in end user characteristics.

Parameters for assessment include:

1. Usage rate in project scenario during Year X
2. Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day
3. Quality of the treated water
4. The raw or unsafe water that is still boiled after installation of the water treatment technology
5. Quantity of safe (treated, or from safe supply) water boiled in the project scenario p, after installation of project technology

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6. The raw or unsafe water that is still boiled after installation of the water treatment technology
7. Number of persons consuming water supplied by project scenario
8. Number of people employed by the project
9. Income generation
10. Number of people trained on water, hygiene and sanitation management
11. Reduced number of water borne diseases (Skin rash, diarrhoea, foot sore and parasites) and Indoor Air Pollution related diseases/infections (itchy eyes, eye problems and incidence of coughing)

The WCFT shall be carried out together with the monitoring surveys to ensure that it is representative of the project boundary.

The following parameters shall be identified using the WFCT:

- Quantity of safe water in liters consumed in the project scenario p and supplied by project technology per person per day
- Quantity of raw or unsafe water boiled in the project scenario p per person per day
- Quantity of safe (treated, or from safe supply) water boiled in the project scenario p per person per day
- Number of persons served by the project technology within the household

Data collection shall be based on survey question included in the monitoring surveys. Households will be required to state how much water is treated per day using the project technology as quantified using the capacity of the safe water storage containers or other containers used to transfer water from collection points (such as rivers/canals) to the household. If any, households which still consume raw water shall be required to estimate how much and state reasons for the same, this provision holds true for safe water (i.e. water treated by the project technology and still boiled in the project scenario).

The WCFT will be carried out according to the methodological requirements for all the VPAs under this PoA. The PP has designed the WCFT protocol based on the procedure for conducting the Kitchen Field test in Annex 4 of the methodology as follows:

1. The WCFT will take place over a 4 day period.

2. Day 1: Surveys and Introduction

The PP shall execute Usage surveys, SD assessments and other non field exercise surveys for the same sampling frame as the WCFT per technology. The PP shall then inform households of the three day WCFT exercise informing them to treat water as they normally do year round. Households will report on the times at which they treat water every day. The times reported shall be recorded to allow enumerators to go to households the following day before raw water is treated.

3. Day 2 – 4: WCFT exercise

Based on the schedule of respective households' water treatment, enumerators will conduct a volumetric assessment for raw water before it is added to the filter. The enumerator shall record the value of raw water treated prior to filtration. This assessment shall be conducted using standardized volumetric container. Raw water carried by the households will be measured in these flasks before being filtered through the project technology.

The mean value of the total raw water (the total water filtered per day aggregated over a three day period) will establish the value $Q_{p,y}$ per household. Which will then be aggregated (after elimination of outliers) to determine the value used to calculate Emission Reductions for the whole project per technology.

The household will then be asked if at all they boil any of the clean water or if they consume any raw water without boiling.

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For clean water boiled, ($Q, p, \text{cleanboil}$) the same volumetric assessment will be conducted for the amount of water boiled with the enumerator quantifying how much clean water is boiled prior to the same being added to the boiling pot.

For raw water, ($Q, p, \text{rawboil}$) the volumetric assessment will be conducted prior to the water being added to the boiling pot.

The WCFT will also record on a day to day basis - the number of people living in the household - daily questionnaire.

The WCFT shall use questionnaires incorporated into the monitoring surveys to quantify the parameters listed above.

ii) Usage Survey

These will be completed annually, or more frequently, and in all cases on time for any request of issuance. The usage survey will provide a single usage parameter that will be weighted based on drop off rates that are representative of the age distribution for project technologies in the total sales record.

A usage parameter will be established to account for drop off rates as this project technology ages and is updated.

Prior to verification, a usage parameter will be required that is weighted to be representative of the quantity of project technologies of each age being credited. For example, if only technologies in the first year of use (age 0-1) are being credited, a usage parameter will be established through a usage survey for technologies aged 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 will be weighted to be equally representative of drop off rates for technologies age 0-1 and age 1-2.

The minimum total sample size will be 100, with at least 30 samples for project technologies of each age being credited. Interviews in a usage survey will be conducted in person and will include expert observation by the interviewer for spot checks to confirm self-reports within the kitchen in question, while the remainder will be conducted via telephone by the same interviewers on condition that in-kitchen observational interviews are first concluded and analyzed such that typical circumstances are well understood by the telephone interviewers.

The usage parameter will be used to determine the number of operational project technologies. The total percentage of households that completely abandon use of the bio sand filters shall be immediately discontinued from the project activity and therefore not credited.

iii) Project Field Test Update

(Will be completed every other year or more frequently)

The project technology will not have any material changes throughout the crediting period and given the fact that it is a zero energy technology, the PFT will focus primarily on an age test, water quality test and details of increased sales within the crediting period.

iv) Baseline Field Test Update

This project will adopt a fixed baseline and therefore FT updates will not be necessary.

v) Leakage Assessment

As was demonstrated in the PoA DD there shall be no leakage assessment for VPAs included in the proposed PoA

2. Quality Assurance and Quality Control

Native Energy/ClimateCare will be responsible for accurate and transparent record keeping, monitoring and evaluation. All supporting documentation and records for the project will be easily accessible for spot checking and cross referencing by any third party.

Contact information in the Total Sales Record will allow a project auditor to contact and visit end users. An auditor will also have to be able to cross reference pertinent project documentation, which will include archives such as production records (e.g. materials purchases, internal logs), financial accounts and sales records, as well as wholesale customer invoices, observations of retailer activities and sales performance.

Data collated from the total sales record and the VPA project database shall be used to conduct monitoring and usage surveys in the accordance with the PPS systematic sampling approach described in the PoA DD.

Project preparation and monitoring schedule	Prior to validation	Prior to first verification	Annual: after first verification	Every two years: after first verification
ER estimation for PDD				
Baseline studies				
NRB assessment	✓ VPA Operator			
Baseline survey	✓ VPA Operator			
Baseline FT (except where default applied)		✓ VPA Operator		
Project studies				
Preliminary estimation – ER, NRB, etc.	✓ VPA Operator			
Project survey		✓ VPA Operator		
Project FT		✓ VPA Operator		
Ongoing monitoring tasks				
Maintenance of total sales record and project database	Continuous			
Usage survey			✓ VPA Operator	
Monitoring survey			✓ VPA Operator	
FT updates				✓ VPA Operator
Leakage assessment				
Updating NRB assessments	N/A			

SECTION C. Duration and crediting period

C.1. Duration of project

10 years

C.1.1. Start date of project

>> Native Energy Hydrad BioSand Water Filter Programme South East Asia- VPA (01) –India is a regular VPA which will be implemented under Native Energy Hydrad BioSand Water Filter Programme South East Asia PoA. The start date of this VPA is defined as 13/01/2018 which is the anticipated first sales date of the water filters and thus the implementation of the project activity. As a regular project cycle project activity the VPA start date is after the PoA start date marked on the 13/01/2018.

C.1.2. Expected operational lifetime of project

>> 10 years

C.2. Crediting period of project

>> 10 years

C.2.1. Start date of crediting period

>> 1/05/2019

C.2.2. Total length of crediting period

>> 10 years

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

>>

Safeguarding principles	a. Assessment questions	Assessment of relevance to the project (Yes/potentially/no)	Justification	Mitigation measure required (if required)
3.1 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 Declaration of Human Rights.	No	The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people.	There is no mitigation measure selected for this project
	2. The Project shall not discriminate with regards to participation and inclusion.	No	The project is not complicit in Human rights abuses. The project activity shall respect human rights during its operation and there shall be minimal possibility of human right abuses.	There is no mitigation measure selected
3.2 Gender Equality and Women's Rights	1. Is there a possibility that the Project might reduce or put at risk women's access to or control of resources, entitlements and benefits? 2. Is there a possibility that the Project can	No	The project seeks to promotes gender equality and the empowerment of women. The project neither contributes to discrimination against women nor does it reinforce gender-based discrimination and/or	There is no mitigation selected for this safeguarding principle. No mitigation measure is required.

	adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)?	No	inequalities.	
	3. 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)?	No	Both men and women have equal opportunities to participate in decisions for the project activity. Both gender take part in the decision making forums such as the stakeholder consultation forum, training workshops and seminars. These are organised in a context and language they can easily understand.	No mitigation measure is required.
	4. Does the Project take into account 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)?	Yes	The project ensures that both men and women benefit from the project in that filters are accessible to all. Employment opportunities are also available to both genders without discrimination.	No mitigation measure is required.
	5. Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from	No	The project technology will improve the livelihood of women by reducing the amount of time and money consumed to get	No mitigation measure is required.

	engaging in other activities?		fuel.	
	6. 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?	No	The project activity shall create job opportunities targeted at empowering the women in India by providing a non-traditional yet rewarding opportunity of earning good income while helping nurture their skills and potentials for an entrepreneurial future.	No mitigation measure is required.
	7. 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?	No		No mitigation measure is required.
	8. Is there a likelihood that the proposed Project would expose women and girls to further risks or hazards?	No	The project shall not involve any form of discrimination based on gender, race, religion, sexual orientation or any other basis	No mitigation measure is required.
			The project will not limit women's ability to use, develop and protect the natural resources, instead it will promote protecting the natural resources by using less fuel	

			for households needs since there will be a shift from boiling water to using the water filter. The project activity will distribute zero energy filters which will displace the practice of boiling water in the households. This will consequently reduce the level of indoor air pollution in the households and all health impacts associated with indoor air pollution.	
3.3 Community Health, Safety and Working Conditions	The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	No	The project involves distribution of water filters which aims at reducing exposure to health risks such as water borne diseases and respiratory illnesses associated with Indoor air pollution to the workers and the community at large.	No mitigation measure required
3.4.1 Sites of Cultural and Historical Heritage	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	No	The project area does not include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture. Rather,	No mitigation required.

	practices)?		the project involves installation of water filters in households.	
3.4.2 Forced Eviction and Displacement	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project involves installation of filters in households thus it does not require or cause physical or economic relocation of people neither temporarily or permanent.	No mitigation required
3.4.3 Land Tenure and Other Rights	1. Does the Project require any change to land tenure arrangements and/or other rights? 2. Are there any uncertainties with regards land tenure, access rights, usage rights or land ownership?	No No	The proposed project activity involves distribution of Hydrad water filters. There shall be no change in land tenure arrangements or involuntary resettlement as a result of implementation of the project activity .	No mitigation measure is required.
3.4.4 Indigenous Peoples	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?	No	The project recognises and respects the rights of indigenous people's and shall seek to respect, protect and conserve the cultural, intellectual, religious and spiritual property of indigenous people. The project involves installation of water filters at household level and will therefore	No mitigation measure required

			have no impact on indigenous people.	
3.5 Corruption	1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	No	The project is not involved nor complicit or contribute to any acts of corruption	No mitigation measure required
3.6.1 Labour Rights	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. 2. Workers shall be able to establish and join labour organisations. 3. Working agreements with all individual workers shall be documented and implemented.		The project does not involve and is not complicit in any form of forced or compulsory labour. Employment shall be in compliance with laid out national and international laws and procedures. Participation into the project activity shall be voluntary. The project respects the employees' freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights. The PP shall ensure that	No mitigation measure requires No mitigation measure required No mitigation measure required No mitigation measure required

	4. The Project Developer shall justify that the employment model applied is locally and culturally appropriate. 5. Child labour, as defined by the ILO Minimum Age Convention is not allowed. 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.		all the employees' rights are observed. The project developer shall ensure proper documentation for all employees including the working agreements. The project developer shall ensure that the employment procedures and model used is locally and culturally appropriate. The project does not employ and is not complicit in any form of child labour. There shall be no employment of children under the age of 14 years, which is the minimum employment age in India²⁸. All employees in the project activity shall be required to enter their age in the employment sheet to ensure that no	No mitigation measure required No mitigation measure required
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²⁸ <https://www.prsindia.org/billtrack/the-child-labour-prohibition-and-regulation-amendment-act-2012-2553>

			children under the age of 14 years are employed. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments. All employees in this project activity shall be exposed to a safe and healthy working environment.	
3.6.2 Negative Economic Consequences	1. The Project Developer shall demonstrate the financial sustainability of the Projects implemented 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	No	The project will be sustained through filter sales and the proceeds received from sale of carbon credits over the 10-year crediting period. This water filtration project generates employment through the sales, supply and installation and during annual monitoring surveys of the hydraid filters.	No mitigation measure is required. No mitigation measure required

4.1.1 Emissions	1. Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	There are no project emissions in the project activity given that the project introduces zero energy water filters. These technologies do not use any non-renewable biomass and hence displace the practice of boiling water completely. By reducing the consumption of unsustainably harvested fuel wood GHG emissions are reduced.	No mitigation measure is required.
4.1.2 Energy Supply	1. Will the Project use energy from 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?	No	The Hydrad filters operate using a combination of biological and physical processes that does not involve use of energy supply. The project will therefore not use energy from a local grid or power supply.	No mitigation measure is required.
4.2.1 Impact on natural water patterns and flow	1. 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?	No	The project activity consists of zero energy Point of Use and Point of Entry water treatment at household levels, that does not impact on natural water patterns. and flow.	No mitigation measure is required.
4.2.2 Erosion and/or water	1. Could the Project directly or indirectly	No	Minimization of deforestation in	No mitigation measure is

body stability	cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to question 2. 2. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	the project boundary will lead to reduction in the occurrence and severity of soil erosion. The project area is not susceptible to excessive erosion or water body instability and the proposed project activity shall not negatively affect soil conditions in the project scenario.	required. No mitigation measure is required.
4.3.1 Landscape modification and soil	1. Does the Project involve the use of land and soil for production of crops or other products?	No	The project is a water filtration project that aims at providing affordable, clean, efficient and easy-to-use alternative for water purification. It therefore does not involve production of crops neither will it lead to soil degradation.	No mitigation measure is required.
4.3.2 Vulnerability to Natural Disaster	1. Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The project does not create nor increase vulnerability to natural disasters. The project area is not susceptible to natural disasters such as earthquakes, landslides, flooding or erosion.	No mitigation measure is required.
4.3.3 Genetic Resources	1. Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination,	No	The project activity is a water filtration project and does not involve the use of GMOs in its	No mitigation measure is required.

	collection and/or harvesting, commercial development)?		operations.	
4.3.4 Release of pollutants	1. Could the Project potentially result in the release of pollutants to the environment?	No	The project activity is a water filtration process that uses a combination of mechanical, biological and physical processes to treat water. No chemicals or hazardous materials are used in this process. The project has therefore no potential of releasing pollutants to the environment.	No mitigation measure is required.
4.3.5 Hazardous and Non-hazardous Waste	1. Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The construction of the water filters involves light manual works and does not involve use of chemicals or other hazardous materials.	No mitigation measure is required.
4.3.6 Pesticides and fertilizers	1. Will the Project involve the application of pesticides and/or fertilisers?	No	The project is a water filtration project that does not use pesticides nor fertilizers.	No mitigation measure is required.
4.3.7 Harvesting of forests	1. Will the Project involve the harvesting of forests?	No	The project Activity actually helps improve natural habitats by reducing the demand for charcoal and wood.	No mitigation measure is required.
4.3.8 Food	1. Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or	No	The project is a water filtration project that aims at providing affordable, clean, efficient and easy-	No mitigation measure is required.

	economic incentives?		to-use alternative for water purification. It therefore does not affect crop production, quality, quantity and availability of the same in any way.	
4.3.9 Animal Husbandry	1. Will the Project involve animal husbandry?	No	The project is a water filtration project that aims at providing affordable, clean, efficient and easy-to-use alternative for water purification. It therefore does not involve animal husbandry practices.	No mitigation measure is required.
4.3.10 High Conservation Value Areas and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value, or (d) recognized as protected by traditional local communities. The proposed project activity target	No mitigation measure required

			area shall be households.	
4.3.11 Endangered Species	1. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?	No	The project activity is a water filtration project which will entail installation of filters at household level. Therefore, the project shall not have any negative impact of any recognised endangered, vulnerable or critically endangered species.	No mitigation measure required
	2. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	The project activity shall not impact on any habitats of endangered species since it entails installation of filters at households.	No mitigation measure required.

SECTION E. Local stakeholder consultation

E.1. Solicitation of comments from stakeholders

>> The former CME, Triple Quest LLC, through the local support partner held 2 local stakeholder consultation live meetings in the 2 states of Jharkhand and West Bengal that form part of the project boundary. The meeting at Jharkhand was held on the 8th December 2014 at the Biosand Water Filter Project Campus, Tiril Dela Toli Kokar, in Ranchi District. The meeting in West Bengal was held on the 5th December 2014 at The Assembly of God Church Towers. Local stakeholders were invited through personal invitation letters, invitation cards (delivered by hand), emails and strategically placed posters. Non-Technical Summary of the project was sent with the invitation.

Agenda:

1. Opening of the meetings:

- Introduction of the participants present
- Explanation of the objective of the meeting which is to get feedback from all the participants on suggestions and improvements on the project
- Signing of the attendance sheets complete with names, signatures, contacts and job/position

2. Description of the Project

Gold Standard[®]

- Presentation of the Hydrad water filters to participants by the VPA implementer
- 3. Explanation of the Gold Standard**
- The VPA implementer introduced the Gold standard carbon asset development and its importance in the project.
- 4. Questions for clarification**
- This period was dedicated for the participants to ask questions and clarifications on the project idea.
- 5. Blind sustainable development matrix exercise; social, Economic and technological parameters.**
- The facilitator introduced and explained the above stated parameters
- A discussion was held with the participants where they stated their views on the sustainable development parameters. They filled in the sustainable development matrix appropriately.
- 6. Discussion on monitoring of sustainable development, millennium development goals and the do no harm assessment and filling of the blind sustainable development matrix.**
- The stakeholders presented their ideas on sustainable development of the indicators. This discussion developed monitoring indicators and parameters. A discussion was also held on millennium development goals.
- Ideas of the local stakeholders on cost effective means of monitoring especially of sustainable development was also held.
- 7. Closure of the meeting**
- The meeting adjourned at 1:00 pm

Non-Technical Summary:

The non-technical summary was availed alongside all personal invitations sent.

The Project

The Hydrad[®] BioSand water filter is a simple filter manufactured by Cascade Engineering. It has no moving parts and is designed to deliver safe water to a family for more than 10 years. The filter combats the leading causes of death and disease by reducing parasites, bacteria, and viruses found in contaminated water.

The project aims at displacing the use of firewood used to boil water. The filters use locally available sand and gravel and are distributed by locally trained partners who have the technical skills to conduct installation and maintenance checks. Native Energy will monitor the project with assistance from *ClimateCare*. ClimateCare is the carbon asset development consultant in the Project.

The Filters

The Hydrad Bio Sand Water filter consists of multiple layers of sand and gravel in a specially designed housing. A biological surface layer that forms naturally within 2 weeks of installation consumes pathogens to clean the water. The water is poured into the top of the Hydrad BioSand filter as needed and goes through a diffuser plate, the biological layer, and down through layers of sand and gravel which further filter out particulate and other pathogens. As the safe, clear water collects at the base of the filter, the water flows by gravity out of the filter through plastic piping attached at the unit's exterior. The Hydrad BioSand filter can meet all of a family's water needs including drinking, bathing, and washing. The Hydrad filter is made of FDA-approved (*food and drug administration*) plastic and is relatively light, making it easier to transport and distribute in the difficult terrain found in the most remote locations. The plastic is approved for drinking water and is UV (*ultra-violet*) resistant so it won't break down in sunlight.

The Benefits

Gold Standard[®]

- Improved health of the users by disinfecting water and reducing the rate of indoor air pollution (IAP) associated with wood fuel, charcoal stoves, and kerosene stoves used to boil water. IAP can cause or aggravate the contraction of diseases such as lung cancer or tuberculosis.
- Income savings. Once purchased, the water filter will help eliminate recurrent expenditure on weekly purchases of kerosene and health issues.
- The filters will provide a source of safe drinking water for consumers who did not previously boil or purify their drinking water.
- The filter project can create and help sustain local jobs.

>> Summary of comments received

Question	Response
1. How much will the water filter cost?	The Hydrad Biosand will be sold at Rs. 500.00.
2. What is the structure of the filter?	The Hydrad filters are made of High Density Polyethylene Resin (HDP) which has a blue colorant. The material is approved by the U.S. Food and Drug Administration (FDA) for use with food and water.
3. Is there a maintenance charge when one buys the filter?	There will be no maintenance cost for the water filters.
4. What is the durability of the filter?	Durability of Hydrad filter is 10-15 years
5. How does the filter contribute to carbon emission reduction and provision of safe water?	The villagers only warm the water to drink. They do not boil water properly. Therefore they drink the contaminated water. By using Hydrad BioSand Filter people would get safe drinking water and join in reduction of carbon. The filter essentially replaces using firewood/charcoal in boiling water in treating drinking water. So, the smoke (carbon) that would have been emitted by boiling drinking water is reduced.

Participant Tracking Table:

Category	Organization	Name of Invitee	Mode of Invitation	Date of Invitation	Yes/No
A	Assembly of God Church	Ps. R. Haldar	Invitation by hand, poster	11/11/2014	Yes
A	Assembly of God Church Kolkata	Rev. Dr. I. Satyavrata	Invitation by hand, poster	11/17/2014	Yes
A	Assembly of God Church Kolkata	Mr. Prabhakar David	Invitation by hand, poster	11/17/2014	Yes
A	Assembly of God Church Kolkata	Mr. Amal Das	Invitation by hand, poster	11/17/2014	Yes
A	Assembly of God Church Kolkata	Ms. A. Subramaniam	Invitation by hand, poster	11/17/2014	Yes
A	Assembly of God Church Kolkata	Rev. Patrick Joseph	Invitation by hand, poster	11/17/2014	Yes
A	Assembly of God	Rev. Dr. Arun Sarkar	Invitation by hand, poster	11/17/2014	Yes

	Church Kolkata				
A	Assembly of God Church Kolkata	Mr. S. P. Shome	Invitation by hand, poster	11/17/2014	Yes
A	Nilgunge	Ps. David Choudhury	Invitation by hand, poster	11/17/2014	Yes
A	Student, Ranchi	Mr. Ravindra Oraon	Invitation by hand, poster	11/6/2014	Yes
A	Advocate, Harmu, Ranchi	Mr. Sidharth Kumar	Invitation by hand, poster	11/5/2014	Yes
A	C.S. Sadar Hospital Ranchi	Mr. Gopal Srivastava	Invitation by hand, poster	11/5/2014	Yes
A	Contractor, Kanta Toli, Ranchi	Mr. Firoj Khan	Invitation by hand, poster	11/5/2014	Yes
	Chartered Accountant, Morhabadi, Ranchi	Mr. Rajesh Srivastava	Invitation by hand, poster	11/6/2014	Yes
A	Local Community Member, Dela Toli, Ranchi	Mr. Pabo Oraon	Invitation by hand, poster	11/6/2014	Yes
A	Assembly of God Church	Ps. R. Halder	Invitation by hand, poster	11/11/2014	Yes
B	MLA- Dhanyaghata	Mr. Joydev Halder	Invitation by hand	11/10/2014	Yes
B	Pradhan- Akrabaria	Mr. Barendranath Halder	Invitation by hand	11/10/2014	Yes
B	Baduria Municipality	Mr. Rajiv Ali	Invitation by hand	11/10/2014	Yes
B	Gram Panchayat Pradhan	Ms. Sarama Ghosh	Invitation by hand	11/10/2014	Yes
B	Public Health Engineering Department	Shri Saurabh K. Das	Invitation by hand	11/10/2014	Yes
B	Pradhan- Malbari	Mr. Jhunubala Mondal	Invitation by hand	11/14/2014	Yes
B	MLA Kumorpur	Ms. Banasree Maity	Invitation by hand	11/14/2014	No
B	Baduria Municipality	Mr. Dipankar Bhattacharya	Invitation by hand	11/19/2014	No
B	Mukhiya, At. Gambharia, Gumla	Mrs. Babita Tigga	Invitation by hand	11/6/2014	No
B	Mukhiya, At. Bharno, Gumla	Mr. Rajesh Sahay	Invitation by hand	11/6/2014	No
B	Mukhiya, At. Bijupara, Ranchi	Mrs. Susanti oraon	Invitation by hand	11/5/2014	Yes
B	Principal Provision Officer, Kokar, Ranchi	Mrs. Amita Honhaga	Invitation by hand	11/5/2014	Yes
B	Drinking Water, Ranchi	Mr. Rama Kant Singh	Invitation by hand	11/5/2014	No
B	Mukhiya, St. Jamchua, Ranchi	Mr. Ramesh Singh Munda	Invitation by hand	11/5/2014	No
B	Mukhiya, At. Murhu, Khunti	Mrs. Sushila Nag	Invitation by hand	11/6/2014	No
C	Ministry of Environment and Forests, Government of	Dr. Subrata Bose	Email	11/12/2014	No

	India				
D	Rising To New Life (Maher), Ranchi	Ms. Sobha Orea	Invitation by hand	11/6/2014	No
E	Gold Standard Regional Manager	Neha Rao	Email	11/12/2014	No
F	Ashanti Social Welfare Association (ASWA)	Habibul Alam	Email	11/12/2014	No
F	Bangladesh Centre for Advanced Studies	Mozaharul Alam	Email	11/12/2014	No
F	Carbon Watch	Deepak Mawandia	Email	11/12/2014	No
F	Chinansi Foundation	Simplex Chithyola	Email	11/12/2014	No
F	Clean Energy Nepal	Bhusan Tulandhar	Email	11/12/2014	No
F	Development Alternatives	Ashok Khosla	Email	11/12/2014	No
F	EnerGHG India	Narendra Paruchuri	Email	11/12/2014	No
F	Fair Climate Network	Dr. Padmanabha Sudha	Email	11/12/2014	No
F	Greenpeace International		Email	11/12/2014	No
F	Green Wave (Ecoclub) UA	Anna Vilde	Email	11/12/2014	No
F	HELIO International	Helene O'Connor-Lajambe	Email	11/12/2014	No
F	Hivos	Harry Clemens	Email	11/12/2014	No
F	Mercy Corps	David Nicholson	Email	11/12/2014	No
F	National Trust For Nature Conservation (NTNC)	Mr. Dahal Ngamindra	Email	11/12/2014	No
F	Nexus, Carbon for Development	Samuel Bryan	Email	11/12/2014	No
F	Non-Conventional Energy and Rural Development Society (NERD SOCIETY Coimbatore)	Mrs. Kamaraj Sathiajothi	Email	11/12/2014	No
F	REEEP	Katrin Harvey	Email	11/12/2014	No
F	Rural Education for Development Society- REDS	Mr. M. C. Raj and Mrs. Jyothi Raj	Email	11/12/2014	No
F	SKG Sangha	Vidya Sagar Devabhaktuni	Email	11/12/2014	No
F	Winrock International India	Debajit Das	Email	11/12/2014	No

F	Winrock International Nepal	Binod Prasad Shrestha	Email	11/12/2014	No
F	World Vision Australia	Dr. Dean C Thomson	Email	11/12/2014	No
F	WWF International	Bella Roscher	Email	11/12/2014	No
F	Mennonites Central Committee	Director	Invitation by hand	11/17/2014	No
F	Lutheran World Service India Trust	Director	Invitation by hand	11/17/2014	No
F	CASA	Mr. Satyajit Das	Invitation by hand	11/17/2014	Yes
F	Ashanti Social Welfare Association (ASWA)	Habibul Alam	Email	11/12/2014	Yes

Attach evidence of the means used to invite participants for example snapshots of emails etc.

Public Invitation used to invite Local Stakeholders

1. Invitation cards:



Figure 3: An image of invitation cards used to invite stakeholders

2. Posters

Posters were hung in several districts in the project boundary. The purpose was to target as many local stakeholders as possible to attend the live meeting.

In West Bengal, the posters were strategically placed in 7 locations, namely, Ashoknagar, Baduria, Assemblies of God church in Kolkata, Guma, Contai, Lakhikantapur and Nilgunje. Some pictures of the posters are evidenced below:



Figure 4: Poster placed in Ashoknagar



Figure 5: Poster Placed in Assemblies of God Church, Kolkata



Figure 6: Poster Placed at Buduria

Posters in Jharkhand were extensively placed in 5 locations within the project boundary, namely in Bharno, Bijupara, Gamharia, Jamchua, and Murhu. Some pictures of the posters have been provided below:



Figure 7: Picture of poster at Bharno



Figure 8: Picture of poster placed as Bijupara

Personal Invitations:

Two methods were used: Personal letters and Emails, as shown below:

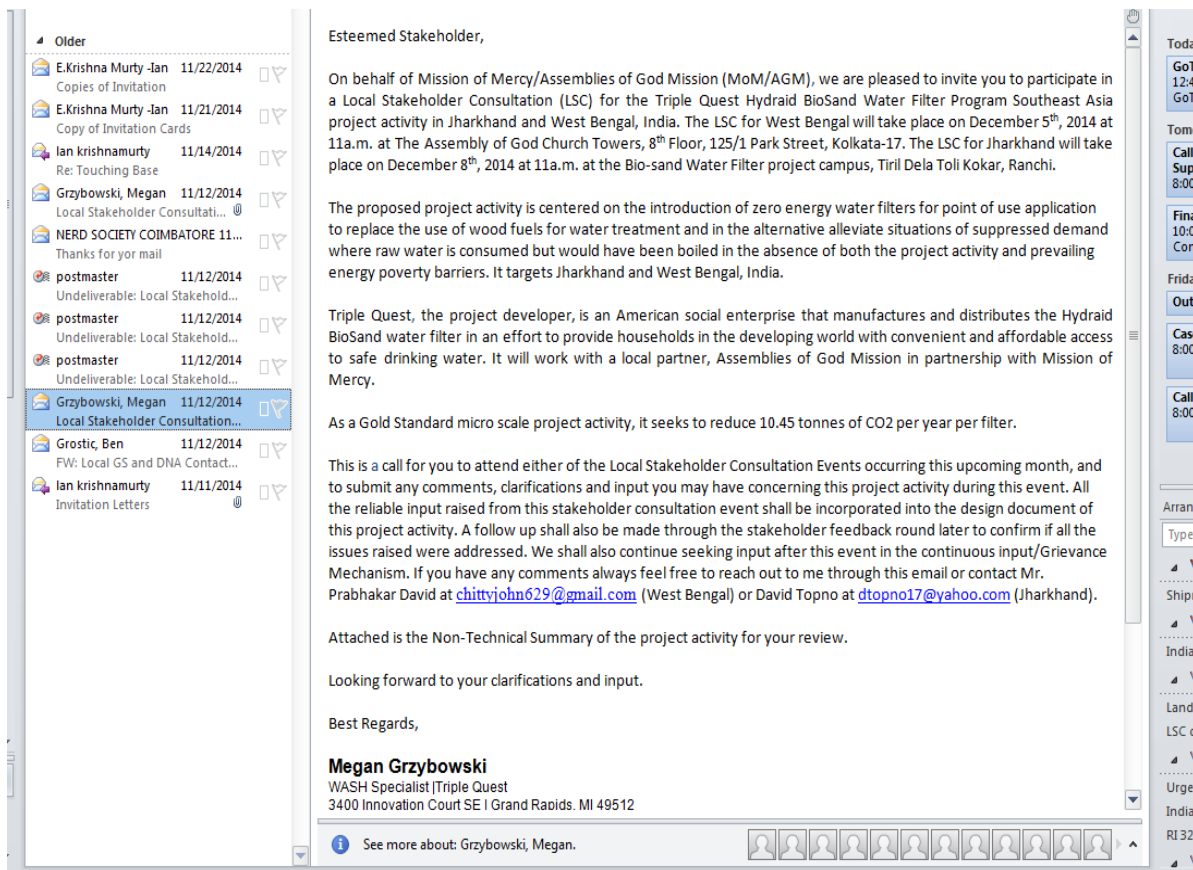


Figure 9: Screen shot of the Email Invitation sent to the Gold Standard

Local Stakeholder Consultation Event, India

Grzybowski, Megan

Added to Salesforce

Sent: Wed 11/12/2014 4:14 PM

To: 'neha.rao@goldstandard.org'

Message LSC Non Technical Summary.doc (187 KB) Invitation card-WB Filter Project.jpg (643 KB)

Gold Standard Representative,

On behalf of our Implementing Partners, Mission of Mercy/Assemblies of God Mission (MoM/AGM), we are pleased to invite you to participate in a stakeholder consultation for the Triple Quest Hydrad Bio Sand Water Filter Program Southeast Asia project activity in Jharkhand and West Bengal, India. The LSC for West Bengal will take place on December 5th, 2014 at 11a.m. at The Assembly of God Church Towers, 8th Floor, 125/1 Park Street, Kolkata-17. The LSC for Jharkhand will take place on December 8th, 2014 at 11a.m. at the Bio-sand Water Filter project campus, Tiril Dela Toli Kokar, Ranchi.

This project activity is to be implemented as the first project of the Triple Quest Hydrad Bio Sand Water Filter Program Southeast Asia implemented under the Gold Standard, so it does not currently have a VPA Number. Triple Quest the project developer, is an American social enterprise that manufactures and distributes the Hydrad BioSand water filter in an effort to provide households in the developing world with convenient and affordable access to safe drinking water. It will work with a local partner, Assemblies of God Mission, in partnership with Mission of Mercy.

The proposed project activity is centered on the introduction of zero energy water filters for point of use application to replace the use of wood fuels for water treatment and in the alternative alleviate situations of suppressed demand where raw water is consumed but would have been boiled in the absence of both the project activity and prevailing energy poverty barriers. It targets Jharkhand and West Bengal, India.

As a Gold Standard micro scale project activity, it seeks to reduce 10.45 tonnes of CO2 per year.

This is call for you to submit any comments, clarifications and input you may have concerning this project activity during this event. All the reliable input raised from this stakeholder consultation event shall be incorporated into the design document of this project activity. A follow up shall also be made through the stakeholder feedback round later to confirm if all the issues raised were addressed. The Project Participant shall also continue seeking for input after this stakeholder in the continuous input/Grievance Mechanism. If you have any comments always feel free to reach out to me through this email or through this number +616 254 4109.

Attached is the Non-Technical Summary of the project activity for your review, and an example of one of the flyers being used to advertise for the LSC.

Looking forward to your clarifications and input.

Best,

See more about: Grzybowski, Megan.

February
Su Mo Tu We
25 26 27 28
1 2 3 4
8 9 10 11
15 16 17 18
22 23 24 25
1 2 3 4

Today
GoToWebinar - L
12:45 PM - 2:00 PM
GoToWebinar - S

Tomorrow
Call Yonatan- LSI
Supplemental M
8:00 AM - 8:30 AM

Finalize Carbon S
10:00 AM - 11:00
Conf Room; Grzy

Friday
Out of Office; 12:

Cascade Office
8:00 AM - 12:30 PM

Call with Yonatan
8:00 AM - 8:30 AM

Arrange By: Flag: C
Type a new task

Today
Shipment Informa

Tomorrow
India Business Vis

This Week
Landing Cost per t
LSC documents

Next Week
Urgent inquiries to
India site visit
RI 3230 - Hydrad (

This Month

Figure 10: Sample of Personal Letters sent to Stakeholders:



NEW CREATION SOCIETY

A Registered Charitable Society
Registered No. 770/2013-2014(Jharkhand)

President

Rev. John Toppo
Assembly of God Church
65, Purulia Road Kanta Toli,
Ranchi, Jharkhand,
India-834001

Vice-President

Mr. Marcel Xalxo
C/o Manik Lakra, Opp Road
No. 3, Ashok Nagar,
Ranchi-834002 Jharkhand

Secretary

Mr. Salan Mundu
New Area Sukla Colony
Indra path Hinoo, Doranda
Ranchi-834002 Jharkhand

Treasurer

Mr. Gideon Gari
New Nagar Bandhgari,
P.O. Bariatu, P.S. Sadar
Ranchi-834009
Jharkhand

Member

Mr. Deogharia Oraon
Tiril Dela Toli, P.O. R.M.C.H.
P.S. Sadar, Ranchi-834009
Jharkhand

Member

Mr. Sushil Topno
Near Bible Society
Gungutoli, Church Road,
Ranchi-834001 Jharkhand

Member

Ms. Anima Toppo
Xavior Colony
Hinoo, Ranchi-834002
Jharkhand

10th November 2014

To,

**Sub.: Local Stakeholders Consultation Meeting, Hydrad Bio-Sand Filter Project of
New Creation Society Ranchi**

Dear Sir/Madam,

This invitation to a Local Stakeholder's Consultation Meeting is concerning our plans to conduct a Carbon Offset Program through the installation of Hydrad Bio-Sand Water Filters in five centres in Ranchi Jharkhand.

The above stated project is point-of-use (in home) water filter installation project that seeks to provide homes in the rural/suburban area with a zero energy alternative to standard water boiling that is effective in disinfecting water.

Our goal to distribute filters will be achieved once the project is registered for carbon financing under the Gold Standard (GS). As a pre-qualification and in accordance with GS rules and procedures, a Local Stakeholders Consultation must be held.

The meeting is to create a forum for the invited stakeholders to assess social and environmental benefits, the set sustainability goals, and efficacy of the project. All feedback, suggestions, criticisms or appraisals shall be fully documented by the project development team.

If you will not be able to attend the meeting feel free to submit any comments or suggestions in an email addressed to dtopno17@yahoo.com A response will be provided as soon as possible.

We look forward to confirmation on your availability to attend the Local Stakeholder Consultation. If you have any questions beforehand, do not hesitate to contact me via email or phone.

Attachment: A non-technical summary of the project.

Sincerely,

Mr. Salan Mundu

Secretary

Phone No. - 9534122671

Registered Office:
65, Purulia Road Kanta Toli, Ranchi, Jharkhand,
India Pin Code: 834001 Phone: 0651-2530281 Email: jagoranchi@rediffmail.com

Figure 11: Letter sent to stakeholders in Jharkhand

Local Stakeholders Consultation Meeting Participant List

Date: 8th December 2014

Venue: Tiril Dela Toli Kokar Ranchi

Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
1	Sona Ordya	Jal Sahitya	A.T- Gora Toli Murhee	9631316575		
2	Baibhara Tirkay	Sahitya	AT- Deshwarali Targu Bijapara	9973581260		
3	Sobha Ordya	Sahitya	AT- Maher Assam	9470184625		
4	Sangita Devi	Ward Prasad No- 8	AT- Kokar, Haider Ali Road	9905504112		
5	Arjun Yadav	Pratishilpi Ward No- 8	AT- Kokar, Haider Ali Road	9905507086		
6	Wasim	Bhaskar	AT- Dainik Bhaskar	9934155233		
7	A.K. Verma	Idalkhatu	A.T- Adalkhatu	9835124803		
8	Ravi Prasad	Rastha Khobar	A.T- Harimu Road	9470928005	VISHU PRASAD 1953@gmail.com	
9	K.V. Vinod	Dainik Bhaskar	A.T- Harimu Bypass Road	9431592077	V. V'ShankarKumar 904916145@gmail.com	
10	Siril Toppo	Retired farm Service	A.T- Salem Nagar Tiril Delatoli	9835537192		

Local Stakeholders Consultation Meeting
Participant List

Date: 8th December 2014

Venue: Tiril Dela Toli Kokar Ranchi

Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
1	Sahen Murdu	A. G. C.	A.T - Shukla Colony Hindou Ranchi	9480851306		
2	Ajmadulla	A.M.C. Panel	A.T - Kanta Toli	9334711762		
3	Feroz Khan	Ranchi	A.T - Kanta Toli	9431104606		
4	Rajesh Sivasaw	Rajesh Sivasaw H/A, C.A.S.	A.T - Morabandi Ranchi	9431114505		
5	Rev. Anil Chakar	A.G. Church BIT, Ranchi	A.T - BIT	9305543378		
6	Santi Prabash Bachhap	A.G. Church	A.T - Dela Toli Teel Ranchi			
7	Saswati Devi	Mudhiya	A.T - Rampur	9373971824		
8	Anita Lakra	Jal Sahiya	A.T - Rampur	9934118554		
9	Vukhla Mong	-	A.T - Bijupara			
10	Naveen Turkey	Pastor	A.T - A.G. Church Bijupara	9934116737		

Local Stakeholders Consultation Meeting
Participant List

Date: 8th December 2014

Venue: Tiril Dela Toli Kokar Ranchi

Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
1	Sudesh Sahu	Pastor	A.T - A.G. Church Jitki	8252642122		
2	Ajay Oraon	Farmer	A.T - Hapamuni	9693725967		
3	Burga Oraon	Makhya	A.T - Aleso	9693225378		
4	Samuel Barla	Mistri	A.T - Kokar	8252746300		
5	Joshi Lakra	Helper	A.T - Kokar	8252232352		
6	Amrita Toppo	Helper	A.T - Kokar			
7	Kamla Devi	Jal Sahiya	A.T - Goratoli			
8	Salomi Hans	C.H.P	A.T - Goratoli Mushu	8809476889		
9	E. Krishnamurthy	AG/MOMC	A.T - 125/ Park ST. Kol - 12	9674061270	Krishnamurthy@ gmail.com	
10	Sunil Turkey		A.T - Garshul Ambatoli	9931431290		

Local Stakeholders Consultation Meeting Participant List						
Date: 8th December 2014						
Venue: Tiril Dela Toli Kokar Ranchi						
Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
1	Anita Toppe	A.G. School	A.T - A.G. Church Kanta Toli Ranchi	9431104691		
2	Nelori Hensom	S.D.A School Khunti	A.T - S.D.A. School Khunti	900 6872456		
3	Saralima Kachhap	A.G. Church School	A.T - Delatoli			
4	Omega Kujer	B.S.F. Helper	A.T - Delatoli	9546585309		
5	Anand P. Ekka	B.S.F. Installer	A.T - Kanta Toli	8877154519		
6	Pradip Toppe	B.S.F. Driver	A.T - Dipatoli	8757616479		
7	Jyoti Bengra	B.S.F. Helper	A.T - Delatoli			
8	Noel Karmakar	A.G.	A.T - 125/1 Park Street Kanta Toli	9836636231		
9	David Toppe	B.S.F.	A.T - Tiril Delatoli Ranchi	9536122671		
10	Lalita Sakay	A.G.	A.T - Hulhundu	9801306003		

Local Stakeholders Consultation Meeting Participant List						
Date: 8th December 2014						
Venue: Tiril Dela Toli Kokar Ranchi						
Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
1	Mangj Lakia	Prabhat Khabe	A.T - Kokar			
2	Ashish Tigga	Jagan	A.T - Kokar			
3	Jahn Toppe	New Creation Society	A.T - Kanta Toli	9431391727	toppe.jahn@gmail.com	
4						
5						
6						
7						
8						
9						
10						

Figure 12: Participants List of attendees in Jharkhand:

Local Stakeholders Consultation Meeting
Participant List
Date: 5th December 2014
Venue: AG Towers, 8th Floor

Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
1.	Ajay Gomez	Church's Association for Social Action (CASA)	5, Russell Street Kolkata - 71	9831535578	ajaygomez@gmail.com	
2.	Prabhakar David	Assembly of God Church	125/1, Park Street Kolkata - 17	9831092977	—	
3.	Anurag Subramaniam	Assembly of God Church	125/1, Park Street Kolkata - 17	8013886938	anurag_s412@yahoo.co.in	
4.	Potomou Joseph	Assembly of God Church	125/1, Park Street Kolkata - 17	9830873834	potomouj@gmail.com	
5.	Col. J. K. Das (Retd)	Assembly of God Church	125/1, Park Street Kolkata - 17	9903292400	chittychandran@gmail.com	
6.	Dr. Anon K. Bala	Bentley Theological College	Kanchowari, Bishnupur, East 24 Parganas	9038520150	anurag@gmail.com	
7.	Amal Das	Assembly of God Church	125/1, Park Street Kolkata - 17	—	—	
8.	Nal Kumar	Assembly of God Church	125/1, Park Street Kolkata - 17	9836636331	nallakumar@gmail.com	

Local Stakeholders Consultation Meeting
Participant List
Date: 5th December 2014
Venue: AG Towers, 8th Floor

Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
9.	S. P. Sharma	Assembly of God Church, Vocational School	24, M. Road, Birga, Kol. 15	9903539114	spsharma@gmail.com	
10.	E. Krishnamoorthy	Assembly of God Church	125/1, Park Street Kolkata - 17	9674061270	krishnamoorthy@gmail.com	
11.	Bablu Mallik	End user	Vill. Hylie, North 24 Parganas	9547878281	—	
12.	Prasanna Mondal	End user	Vill. Hylie, North 24 Parganas	Do	—	
13.	Dr. Iyer Jagannath	Assembly of God Church	125/1, Park Street Kolkata - 17	—	—	
14.	H. Ghose	Assembly of God Church	125/1, Park Street Kolkata - 17	—	—	
15.	Goutam Das	Bio-Sand-Filler Project	Kankhantapan, North 24 Parganas	9733581922	—	
16.	Alaka K. Das	Bio-Sand-Filler Project	Guma, North 24 Parganas	9749374153	—	

Local Stakeholders Consultation Meeting Participant List						
Date: 5th December 2014 Venue: AG Towers, 8th Floor						
Sl.#	Name	Institution / Organization / Department	Address	Contact No.	Email ID	Signature
17.	Tapas Bharmic	Bisland Fuller Project	Nilgange North 24 Parganas	9836938087	-	
18.	Anita Sarkar	Bisland Fuller Project	Bacharia North 24 Parganas	7872791832	-	
19.	Anujit Karmakar	Assembly of God Church	125/1, Park Street Kolkata - 17	-	-	
20.	Durga Vaddi	Assembly of God Church	125/1, Park Street Kolkata - 17	9903118852	-	
21.	Noel Murthy Vaddi	Assembly of God Church School	125/1, Park Street Kolkata - 17	9831622839	noel.murthy@	

Figure 13: Participant List West Bengal:



Figure 14: Picture of the Live Meeting in Jharkhand

Report on how due account was taken of any comments received and on measures taken to address concerns raised:

>> No comments raised by the participants had any significant impacts on the design and implementation of the VPA

Report on Continuous Input mechanism selection:

>> Stakeholders were encouraged to present their concerns and feedback on the project throughout the lifetime of the project. The local partner shall check all the comments and inputs and comments in the input book and attend to them.

There will be 2 locations for the log books strategically situated within the project boundary to ensure stakeholders can access them. These locations are:

1. The logbook for Jharkhand is kept at:

BSF Workshop

The Assembly of God Church School

Tiril Delatoli, Kokar, Ranchi 9,

Jharkhand

The person keeping track of the logbook is Mr. David - 953 412 2671.

In West Bengal the logbook will be placed at:

AG Towers 9th Floor

125/1 Park Street

Kolkata, W.B. 700017

The people keeping track of the logbook are Durga Godla - 9903118858 and Arijit karmakar - 9874741160

The stakeholders can also send their comments through the following email addresses

- info@goldstandard.org,
- neha.rao@goldstandard.org.
- biosandfilteragkol@gmail.com (West Bengal),
- dugra.godla@gmail.com (West Bengal),
- dtopno17@yahoo.com (Jharkhand).

Discuss the Continuous input / grievance mechanism expression method and details, as discussed with local stakeholders.

	Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)	Justification
Continuous Input / Grievance Expression Process Book	The CME will have the expression book in the	The expression book was developed in a manner that enabled stakeholders to input comments, grievances or suggestions concerning the project activity with ease. A local person has been provided to attend to the stakeholders in case of clarifications. The CME through the local support partner shall regularly check the inputs, comments or suggestions addressed by the stakeholders to ensure they are addressed.

Telephone access	The CME shall provide a telephone contact through the local support partner which shall be made publicly available. Stakeholders will be presented with the opportunity to pass their suggestions, comments or grievances through this contact.	Stakeholders were given the telephone contact of the local support partner, through which they can give their grievances with ease as opposed to visiting the location of the expression book.
Internet/email access	The CME shall establish a local support partner email address which shall be publicly known to all stakeholders.	The stakeholders were provided with an email address by the CME which they could communicate their suggestions, comments or grievances without having to visit the expression book or make telephone calls. The project participant shall regularly all the grievances provided and address them promptly.
Nominated Independent Mediator (optional)	This option has not been selected.	This option has not been selected.

GS3964: Native Energy Clean Water Programme India- VPA (01)						
(India)						
Section 1 – Physical Input of Comments to Expression Book						
	<u>Date Comment was received (dd/mm/yyyy)</u>	<u>Comment</u>	<u>Did the comment solicit a specific action be undertaken? (Yes / No)</u>	<u>Action Item for compliance with request</u>	<u>Date action request was completed (dd/mm/yyyy)</u>	<u>Has the matter been concluded? (Yes / No)</u>
1						
2						
n						
Section 2 –Comments to Expression Book received from Telephone Calls						
	<u>Date Comment was received (dd/mm/yyyy)</u>	<u>Comment</u>	<u>Did the comment solicit a specific action be undertaken? (Yes / No)</u>	<u>Action Item for compliance with request</u>	<u>Date action request was completed (dd/mm/yyyy)</u>	<u>Has the matter been concluded? (Yes / No)</u>
1						
2						
n						
Section 3 –Comments to Expression Book received from Emails						
	<u>Date Comment was received (dd/mm/yyyy)</u>	<u>Comment</u>	<u>Did the comment solicit a specific</u>	<u>Action Item for compliance with request</u>	<u>Date action request was completed (dd/mm/yyyy)</u>	<u>Has the matter been concluded?</u>

			<u>action be undertaken?</u> (Yes / No)			<u>(Yes / No)</u>
1						
2						
N						

All issues identified during the crediting period through any of the Methods shall have a mitigation measure in place that should be added to the monitoring plan.

E.2. Report on consideration of comments received

>> None of the comments raised by the participants had any significant impacts on the design or implementation of the proposed VPA

Appendix 1. Contact information of project participants

Organization name	Native Energy
Registration number with relevant authority	103000000001643
Street/P.O. Box	3 Main Street
Building	Suite 212
City	Burlington
State/Region	Vermont
Postcode	05401
Country	USA
Telephone	+1-802-861-7707
Fax	+1-802-861-7717
E-mail	tom.stoddard@nativeenergy.com
Website	www.nativeenergy.com
Contact person	
Title	Vice President and General Counsel
Salutation	Mr.
Last name	Stoddard
Middle name	
First name	Tom
Department	Management
Mobile	
Direct fax	
Direct tel.	
Personal e-mail	

Appendix 2. Summary of post registration design changes