Gold Standard for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & VPA DESIGN DOCUMENT (VPA DD)

PUBLICATION DATE

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RELATED SUPPORT

- Programme of Activity requirements
- TEMPLATE GUIDE VPA Design Document

This document contains the following sections

KEY PROJECT INFORMATION

Type of VPA	☒ Real case VPA ☐ Regular VPA
Scale of VPA Note that a VPA can be of one scale. Please select applicable scale accordingly.	☒Microscale ☐Small scale ☐Large scale
Title of corresponding real case VPA (if applicable)	GS12219 VPA-1 Water filter project in Dindori, Madhya Pradesh, India
GS ID of real case VPA (if applicable)	GS12220
GS ID of VPA	GS12220
Title of VPA	GS12219 VPA-1 Water filter project in Dindori, Madhya Pradesh, India
Time of First Submission Date	12/06/2023
Date of Design Certification	12/09/2024
Version number of the VPA-DD	04.0
Completion date of version	07/02/2025
Coordinating/managing entity	EKI Energy Services Limited
VPA Implementer (s)	EKI Energy Services Limited
Project Participants and any communities involved	EKI Energy Services Limited
Host Country (ies)	India
GS ID and Title of applicable Design Certified VPA	-
GS ID and Title of applicable Performance Certified VPA	-
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities

	☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Other Requirements applied	Community Services Requirements, Version 1.2[1] Programme of Activity Requirements and Procedures Version 2.1
Methodology (ies) applied and version number	METHODOLOGY FOR EMISSION REDUCTIONS FROM SAFE DRINKING WATER SUPPLY, Version: 1.0[2]
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
VPA Cycle:	☒ Regular ☐ Retroactive

Table 1 – Estimated Sustainable Development Contributions

SUSTAINABLE DEVELOPMENT GOALS TARGETED	SDG IMPACT (DEFINED IN B.6.)	ESTIMATED ANNUAL AVERAGE	UNITS OR PRODUCTS
13 Climate Action (mandatory) 13.2 Integrate climate change measures into national policies, strategies and planning	Emission Reductions Indicator: 13.2.2 Amount of CO2e emissions reduced by the project per year	5,745	GSVERs

[1] https://globalgoals.goldstandard.org/201-ar-community-services-activity-requirements/
[2] https://globalgoals.goldstandard.org/standards/429_V1.0_EE_SWS_Emission-reductions-from-Safe-Drinking-Water-Supply.pdf

1 - No Poverty 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services, including microfinance	Contribute to providing access to basic services i.e. clean drinking water solutions (Household Water Treatment units- Econeer) considered as basic service to the poor and vulnerable communities of India. Indicator 1.4.1: Proportion of population living in households with access to basic services Project specific Indicator: Total number of premises with at least one water filter distributed under the VPA.	2,010	Number of Household water filter
3 - Good Health and Well-being 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination.	The VPA in its lifetime will contribute to improved health and well-being brought about by using HWT units (Econeer). Indicator 3.9.1: Mortality rate attributed to household and ambient air pollution Project-specific Indicator: % users reporting reduction in incidences of waterborne diseases	100 (estimated)	Percent

	such as skin rashes, diarrhea, foot sores, parasites, eye problems and other waterborne diseases		
4 - Quality education 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	Contribute to increasing vocational and relevant skills of local individuals by providing non-formal education and training on issues related to climate change, with specific skill building in operations and surveying activities related to HWT distribution units as well as increased awareness to use clean drinking water in their daily life and it's monitoring under GS. Indicator 4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex Project-specific indicator: Number of employees who have undergone skill development training	minimum 1 training/annum	Number of soft skill trainings/ program conducted in a year.
5 - Gender equality	This project tackles drudgery and gender inequality by	100	%

5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	providing water filter to rural households. On average, women, at least spend 1 hour daily gathering firewood. By saving this time, they gain opportunities for work, education, or leisure, promoting equality and well-being. Indicator 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age and location Project-specific Indicator: % Users reporting a time-saving in fuel collection after shifting to Econeer water filter.		
6 – Clean Water and Sanitation 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	Access to improved source of water. Indicator 6.1.1: Proportion of population using safely managed drinking water services Project Specific Indicator: No of people who have access the water filter.	10,774	No of person getting benefits by using clean drinking water solutions

	Contribute to increasing access to clean water purification technology with installations in user households.		
7 – Affordable and clean energy 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	Indicator- 7.1.2 Proportion of population with primary reliance on clean fuels and technology. Project specific Indicator: Total number of premises with at least one water filter distributed under the VPA.	2,010	Proportion of population with primary reliance on clean fuels and technology
8 - Decent Work and Economic Growth 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	This project will create jobs in the local economy (agriculture and non-agriculture) by hiring local residents, particularly women, for various project durations throughout its lifetime. Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities. Project specific Indicator: Total no of jobs created (in distribution,	4	No of jobs created/ annum

	Monitoring & Evaluation).		
12- Responsible Consumption & Production 12.2 By 2030, achieve the sustainable management and efficient use of natural resources	The project focuses on utilizing water filters as a sustainable solution for providing safe drinking water. Throughout the project lifetime, households will consume a reduced quantity of untreated water that would otherwise require boiling. Consequently, the project actively promotes sustainable consumption and production of renewable natural resources within the project area by reducing the demand for firewood used in water treatment. Indicator 12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP Project-specific Indicator: Reduction in consumption of renewable biomass.	369	Tonnes of renewable biomass saved

15- Life on land 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	The project addresses deforestation by encouraging the use of alternative boiling methods, thereby reducing dependence on non-renewable wood fuel. This approach decreases the demand for wood, helps conserve forests, and boosts the proportion of renewable energy utilized in the region. Indicator 15.2.1: Progress towards sustainable forest management. Project-specific Indicator: Reduction in consumption of non-renewable biomass.	3,053	Tonnes of non-renewable biomass saved

SECTION A. DESCRIPTION OF PROJECT

A.1. Purpose and general description of project

The real case voluntary project activity (VPA) is providing household water filtration units for marginalized households in India living in rural, urban, semi-urban areas. The VPA is a part of POA, which will contribute to the reduction of greenhouse gases and socio-economic progress for communities who are relying on unsafe drinking water sources and thus the objective of the VPA is to disseminate household water treatment units in Dindori & Anuppur district of Madhya Pradesh, India so that the rural communities living in remote hilly areas have increased access of safe drinking water for their daily use and thus increased living standard for the poor and marginalized people.

The first real case VPA under the GS Programme of Activity provides safe household drinking water treatment solutions to marginalized households at free of cost and replace the usage of equivalent quantity of fuel wood in traditional three stone fire or any other conventional wood stoves which are inefficient and smoke-intensive and

which would have been used to boil the water to make it safe for drinking purposes. The project will promote safe drinking water technologies for households and thus will lead to avoidance of cutting of forests as the population in the project area under consideration is primarily dependent on forests for meeting their fuel demand in their daily life.

The objective of the project consists of reducing greenhouse gas emissions and providing better living conditions at households, especially improving the health of women and children by reducing indoor air pollution resulting due to reduced use of fuel wood required for boiling unsafe water suitable for drinking purpose.

Baseline scenario: In the project region, residents rely on unimproved water sources, such as open wells and surface water from small rivers, which are often contaminated. Households use inadequate water purification techniques, such as cloth or sieve filtering, or boil water to make it safe for drinking. During the rainy season (approximately four months), the lack of clean drinking water increases, leading to waterborne diseases like jaundice, cholera, and typhoid. Due to barriers such as cost and accessibility, many households either consume unsafe water directly or boil it using wood as their primary energy source.
Key Conditions:

- End-users who boil unsafe water for drinking in the pre-project scenario.
- End-users who currently drink unsafe water (suppressed demand).

An implementing agency has been included at this VPA level. The carbon certification work and communication with implementing partners are managed by the Coordinating and Managing Entity (CME), EKI Energy Services Limited (EKIESL). The selection of end beneficiaries, collection of baseline and project information for monitoring and verification, is jointly managed by EKIESL and implementation partners.
The carbon revenue generated by the VPA will be used to:

Cover the cost of water filters, which will be distributed free of charge.
Fund technology development, implementation, and monitoring costs at both the PoA and VPA levels.
Upscale the project to benefit more households, ensuring the health and well-being of poor and rural communities.

The Coordinating and Managing Entity has distributed 2,010 water filter in Dindori and Anuppur District of Madhya Pradesh in India.

The estimated emission reduction over 5 years of crediting period is expected to be 28,725 tCO_2e and 5,745 tCO_2e per year respectively, from the present real case VPA.

A.1.1. Eligibility of the VPA under approved PoA

As per section 3.1.1 of the Principles & Requirements Eligibility of the VPA under approved PoA is outlined in the below table.

Table 2 Eligibility for VPA inclusion as per PoA requirements

NO.	ELIGIBILITY CRITERION	DESCRIPTION/ REQUIRED CONDITION	DESCRIPTION OF THE VPA IN RELATION TO THE CRITERIA, MEANS OF VERIFICATION AND SUPPORTING EVIDENCE FOR INCLUSION

1	Types of Projects:	Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	The VPA under consideration is being implemented on ground with a start date of 11/05/2023 and is also an eligible project type as per GS Principles and requirements section.
2	Location of the project	Projects may be located in any part in India.	The VPA under consideration is implemented in Dindori and Anuppur district of Madhya Pradesh, India.
3	Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements.	The project area and project boundary for the real case VPA under consideration is being considered as Dindori and Anuppur district of Madhya Pradesh, India. Also the real case VPA is a micro scale project activity and is in compliance with Micro scale project requirements as well community service activity requirements.
4	Host Country requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	The real case VPA under consideration is being implemented as per the host country i.e. India's legal, environmental and social regulations.
5	Contact Details	As a project developer the contact details need to be updated	The contact details of the CME are updated in the Appendix 2 of VPA.
6	Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Each VPA shall outline proper means of demonstration of legal ownership of Products generated under the VPA (see criteria in A.5 of PoA-DD).	The legal ownership of the GSVER generated is demonstrated by means of carbon credit ownership agreements. The transfer of credit ownership from end-users to the CME is managed through distribution lists which include the distribution receipts and consent form. The end-users and representatives have been informed about the transfer of carbon credit ownership during the

			Stakeholder Consultation process as well as at the point of receipt of Econeer (HWT units).
7	Other rights	The Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project	The CME has completed legal rights over the services and products generated and is being justified by means of carbon credit ownership agreements.
8	Official Development Assistance (ODA) Declaration	All project developers need to submit ODA	The CME has submitted ODA declaration.
9	The Geographical boundaries of VPAs are consistent with the geographical boundary of the PoA	The geographical boundary of the VPA is within the geographical boundary of the PoA	Household Water Treatment (HWT) units are being distributed to residential users who are basically poor tribal people within the Dindori and Anuppur district Madhya Pradesh, India and is within the boundary of PoA. Evidence for inclusion: VPA-DD section A.2, specifying location and boundary of the VPA.
10	Conditions to avoid double counting of Impacts, such as unique identifications of product and end user locations	A unique numbering system for devices (water filter) will be applied in each VPA, assigning a unique number to each device and allowing to clearly identify for each device to which VPA it belongs.	Evidence for inclusion: VPA-DD section B.7.3, describing the unique device numbering system for the VPA.
11	Conditions to check the start dates of VPA through documentary evidence	A start date will be specifying with each VPA. All VPAs will have the start date after the start date of the PoA.	Evidence for inclusion: VPA-DD section C.1.1, specifying the start date.
12	Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardised baselines and the other	Each VPA will meet the applicability criteria of the GS methodology "methodology for emission reductions from safe drinking water supply", version: 1.0	Section B.2 of the VPA-DD shows that the inclusion criteria for methodology application are met.

	applied methodological regulatory documents		
13	Conditions to ensure that VPA meet the requirements for demonstration of additionality	All VPAs to be included under the PoA will be in compliance with para 1.1.3 of Annex B – positive list mentioned in the 'Community Services Activity Requirements', Version 1.2. All VPAs will be solely composed of isolated units (CEPs) where the users of the technology/ measure are households or communities or institutions and where each unit results in <= 600 MWh of energy savings per year or <=600 tonnes of emission reductions for HWT/IWT/CWT/CWS technologies.	The VPA-DD confirms that the emission reductions per year at a unit level (i.e. per water filter) are clearly below 600 tCO_2 per year. The same can be verified from ER Calculation sheet submitted with the VPA-DD. Hence, according to paragraph 4.1.9 of the 'Community Services Activity Requirements', each of the VPAs, regardless of the host country in which the project activity is being implemented, is deemed auto additional and therefore is not required to prove additionality at the time of Design Certification.
14	Condition to ensure that the real case VPA and its regular VPAs meet the applicability criteria of selected methodology of combination of methodologies	Each real case VPA and its regular VPSs will meet the applicability criteria of the GS Methodology "METHODOLOGY FOR EMISSION REDUCTIONS FROM SAFE DRINKING WATER SUPPLY", Version: 1.0	Section B.2 of the VPA-DD shows that the inclusion criteria for methodology application are met.
15	Conditions to be met by each VPA regarding SDG outcomes assessment	Positive outcomes expected for at least 3 SDGs.	More than 3 SDGs included in the VPA-DD

A.1.2. Legal ownership of products generated by the VPA and legal rights to alter use of resources required to service the project

The CME EKI Energy Services Limited has full and uncontested legal ownership of the Products - Verified Emission Reductions (GS-VERs) that are generated in line with the Gold Standard GS4GG Principles and Guidelines.

The transfer of carbon credit ownership from end-users to the CME is managed through carbon credit ownership agreements which include the distribution receipts and consent form and declaration regarding the ownership of carbon credits with EKI Energy

Services Limited. The end-users and distribution representatives have been informed about the transfer of carbon credit ownership during the Stakeholder Consultation process as well as at the point of receipt of the technology and the stakeholders gave their consent for this.

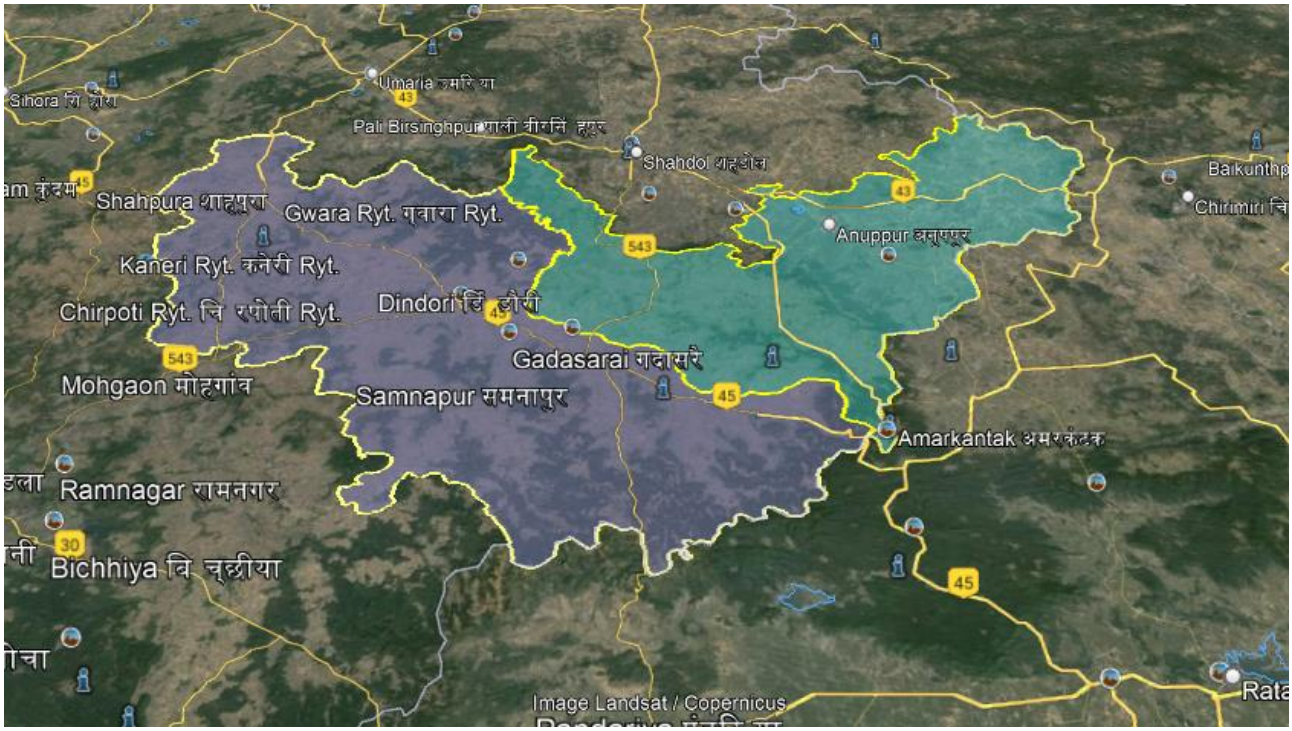
A.2. Location of VPA

All the VPA in the POA can be located in India.

For the initial VPA (first real case VPA), the geographical area is in the Dindori and Anuppur district of Madhya Pradesh in India. The extreme geographic coordinates of Dindori and Anuppur district of Madhya Pradesh, India as follows:

Latitude - 23°11'52.89"N to 23°18'40.02"N
Longitude - 81°24'13.69"E to 82° 1'24.23"E

The geographical Map of the project location and has mentioned below:



The separate KML file for the project location has been submitted to VVB.

A.3. Technologies and/or measures

The household water treatment (HWT) units which EKI Energy Services Limited (EKIESL) is deploying has been created and engineered by GHG Reduction Technologies Private Limited in-house engineers. The filters use hollow-fiber membrane technology that has been utilized for years in high-precision ultra-filtration in industrial, food, water, and medicinal applications. The polymeric material is used to make hollow micro-tubes that have a straight exterior and an inside that is hollow. The tubes have minuscule pores on their walls that are no bigger than 0.1 microns in diameter. On the outside of the tubes, water enters the filtration elements. Bacteria cannot get through the micropores since they are bigger than 0.1 micron. Water alone can pass through

the openings. On the outside of the tubes, pathogens like bacteria, algae, cysts, parasites, and detritus are left. Once the water passes through the filter components, the pure water is collected. The pollutants that build up on the filter components can be rapidly and easily removed by backflushing the filters.

The entire filtration procedure is mechanical. There are no biological or chemical processes at play.

Specifications of Econeer Filter

Cartridge Name	Gravity Filter by Econeer	
Types of filter	Hollow Fibre	
Length of Cartridge (mm)	80	
Diameter (mm)	65	
Active Surface area (m^2)	0.45216 m^2	
Flowrate	Operating Pressure	0.1 -0.3 Mpa
	Under Gravity (10 litre top container, 10 litre bottom container) (at 25 °C)	8 Lit./Hr.
Flow Direction	Outside – in	
Working temp	5 to 35 degree Celsius	
Claims : -	• Bacteria - 6 Log, Virus – 2 log, Turbidity:- Nill • Life of Cartridge: 10,000 litres or 2 years (depends upon the intake quality of the water). • Membrane module to be washed every week.	

- **Technology Details**: - The household water purification units use ultrafiltration process is the most efficient and cheap process in terms of productivity because of its high-water permeability particularly in the treatment of impure turbid water containing suspended particles, pathogens and other harmful microorganisms. Water purification process in which water is forced through a Semipermeable membrane with a pore size up-to 0.1 micron.

- **Storage Container: -**

  i. Comes with the high-grade stainless-steel container where there is no chance of regrowth of bacteria, as takes place in plastic container (present in market).
  ii. Lower part of system is the storage container which can hold upto 10 litres of Pure, Clean water for use.
  iii. A tap is attached in the lower part of system.

  - **Cartridge/ membrane :-**

i. **Pore size**: The pore size of the membrane determines the size of particles that can be removed. Water filter membranes have pore sizes 0.1 microns. The pore size of a water filter membrane is an important factor in determining its effectiveness. Smaller pores allow for finer filtration, removing more contaminants from the water. This is extremely small, and can filter out bacteria, viruses, and other pathogens.

ii. **Material:** UF Membrane is based on polymer (polysulfone, polypropylene, cellulose acetate, polylactic acid) which is high quality hollow fibre membrane.

iii. **Flow rate:** Its filtration rate is 6 to 8 Lit/hr (depends upon quality and temperature of water.

iv. **Cartridge life:** Its life is upto 2 years or 10,000 litres which one is earlier.

Further the project is being implemented adequately as per the protocols and rules of GS and accordingly regular interactions are being done by the distribution team appointed by CME who take full control and ownership for the successful implementation of the project. In case of any feedback or help needed, the distribution team takes adequate action with documentary evidence in order to resolve the feedback or complaints received regarding the use of water filters.

A.4. Scale of the VPA

The real case VPA under consideration is a micro-scale.

As per GHG Emissions reductions & Sequestration Product Requirements v2.2[3] project falls under Type 3: Other project activities: project involves technologies such Safe Water Supply, Waste management, etc. that result in GHG emission reductions not exceeding 60,000 tCO_2e per year in any year of the crediting period.

Also, as per para 3.1.2 of Community Services Activity Requirements Version 1.2[4], the micro scale projects can be defined as a CSA project issuing emission reductions less than or equal to 10,000 tCO_2e. Since the real case VPA under consideration is having estimated annual emission reductions of 5,745 tCO_2e which is less than 10,000 tCO_2e and hence the project is being classified as a micro scale VPA.

A.5. Funding sources of VPA

This project has not received any public funding from Parties listed in Annex I. The Project is willing to obtain certification from the Gold Standard Foundation because it

[3] https://globalgoals.goldstandard.org/501-pr-ghg-emissions-reductions-sequestration/
[4] https://globalgoals.goldstandard.org/standards/201_V1.2_AR_Community-Services-Activity-Requirements.pdf

plans to use carbon financing as a source of funding to meet the operational and upscaling costs associated with the real case VPA.

SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

B.1. Reference of approved methodology (ies)

The following methodologies and tools are applicable:

a) GS Methodology "Methodology for Emission reduction from safe drinking water supply[5]", version 1.0
b) GS Methodology "Reduced emissions from cooking and heating – Technologies and Practices to displace Decentralised Thermal Energy Consumption (TPDDTEC)[6]", version 4.0
c) CDM Methodological Tool 30 "Calculation of the fraction of non-renewable biomass", EB 115, annex 22, Version 04.0[7]
d) Gold Standard Activity Requirements "Community Services Activity Requirements", Version 1.2, Publication Date: October 2019[8]
e) Gold Standard Guideline "GHG Emission Reduction & Sequestration Product Requirements", Version 2.2[9], Publication Date: 28/08/2023
f) Global Goals Community Services Activity Requirements", version 1.2[10], Published date: 24/10/2019

B.2. Applicability of methodology (ies)

The table below lists each of the methodology applicability i.e., "Emission reduction from safe drinking water supply[11]", version 1.0 as per para 2.2 that how the VPA complies with each of the criteria:

[5] https://globalgoals.goldstandard.org/429-ee-sws-emission-reductions-from-safe-drinking-water-supply/
[6] https://globalgoals.goldstandard.org/standards/407_V4.0_EE_ICS_Reduced-Emissions-from-Cooking-and-Heating-TPDDTEC.pdf
[7] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v4.0.pdf
[8] https://globalgoals.goldstandard.org/201-ar-community-services-activity-requirements/
[9] https://globalgoals.goldstandard.org/501-pr-ghg-emissions-reductions-sequestration/
[10] https://globalgoals.goldstandard.org/108-par-microscale-project-requirements/
[11] https://globalgoals.goldstandard.org/429-ee-sws-emission-reductions-from-safe-drinking-water-supply/

Eligibility Criteria	Justification for the VPA
a. Eligible household water treatment technologies (HWT), institutional water treatment technologies (IWT), and community level water treatment technologies (CWT) include bleach/chlorine, water filter (ceramic, sand, composite, membrane, etc.), UV disinfection, etc.	The real case VPA under consideration involves distribution of household water treatment technologies (HWT). Thus, this criterion is satisfied.
b. Eligible community water supply technologies (CWS) include new installation of new borehole hand-pumps, borehole hand-pumps rehabilitation, solar powered drinking water pumps, etc. Water pumps powered by fossil-fuel engines are not eligible, with the exception of backup fossil–fuel engines that are used for no more than 10% of operating hours (parameter SWDS 33).	The Project technology is HWT. Thus, this applicability criteria are not applicable.
c. All projects involving CWT and CWS technologies must also include ongoing maintenance and repair of the project technology.	The Project technology is HWT. Thus, this applicability criteria are not applicable.
d. Where the project involves the rehabilitation of an existing technology, the project developer shall provide evidence that the existing technology is non-operational and that there is no planned maintenance or repair for at least 3 months after the date it became non-operational (parameter SWDS2).	The voluntary project activity is a greenfield project activity not a rehabilitation of an existing technology. Thus, this applicability criteria are not applicable.

e. This methodology allows for project activities to include safe water treatment and/or supply technologies implemented for end-users in households, and/or commercial premises such as shops or institutional premises including half or full day/boarding schools, prisons, army camps & refugee camps.	The VPA focus on the distribution of Household water treatment technologies (HWT) device to avoid GHG emission from boiling unsafe water in the baseline and lacking access to safe drinking water (suppressed demand) to end user households. The HWT unit has not distributed to commercial premises such as shops or institutional premises including half or full day/boarding schools, prisons, army camps & refugee camps. Hence, this applicability criteria are applicable.
f. In cases where the safe water is retrieved at the CWT or CWS location, the water in its improved form shall be available within a distance of 1 km or less from the end-users, as demonstrated by satellite imaging or GPS coordinates[12] of each CWT or CWS location. Alternatively, as a proxy, a total collection time of 30 minutes or less for a round trip, including queuing, using the travel modes of walking or pedaling may be demonstrated (parameter SDWS 1).	The Project technology is HWT. Thus this applicability criteria is not applicable.
g. Project technology performance level (HWT and IWT): It shall be demonstrated based on report of laboratory testing[13] or official notification[14] that the project technology or equipment achieves either (i) the performance target classification 3-star or 2-star level, meaning "Comprehensive	The technology performance level for household filters will be evaluate following method (i) compliance with the national standard or guideline for drinking water treatment technology". The project technology performance level complies with the applicable national drinking water standard or guidelines for India IS 10500: 2012[17].

[12] Acceptable formats for GPS coordinates include DMS (degrees, minutes and seconds), DMM (degrees and decimal minutes), and DD (decimal degrees).
[13] The testing should be undertaken under conditions that are representative of the operation conditions of the project site(s) including feedwater.
[14] For example notifications from the national authority on health

Protection," as per the WHO International Scheme to Evaluate Household Water Treatment Technologies[15] (World Health Organization, 2011) or (ii) compliance with the national standard or guideline[16] for household drinking water treatment technology; if no national guideline or standard is available, then the project technology shall comply with the WHO International Scheme requirements as per (i) (parameter SDWS 2).	According to IS 10500:2012 (Clause 4.1.1) on the bacteriological quality of drinking water, E.Coli shall not be detectable in any 100ml sample for all water intended for drinking.
h. Project technology performance level (CWT and CWS): For each individual CWT or CWS, it shall be demonstrated at the start of each crediting period with water quality testing reports that the water directly supplied by the project water technology/source achieves both: i. microbial quality in line with either (i) national standards or guidelines for microbial quality of drinking water, or in the absence of such requirements, (ii) the guideline values for verification of microbial quality from the Guidelines for drinking-water quality (Table 7.10, WHO, 2017)[18]; and ii. compliance with (i) national standards or guidelines on priority	The Project technology is HWT. Thus this applicability criteria is not applicable.

[15] International Scheme to Evaluate Household Water Treatment Technologies, WHO Refer to the list of products tested by WHO https://www.who.int/water_sanitation_health/waterquality/household/hwts-products-evaluated/en/

[16] The national standard or guideline shall be based on laboratory efficacy testing that, at a minimum, includes quantitative microbial measures of pre- and post-treatment challenge waters that are representative of potential drinking water sources, and that includes measured reductions based on at least one pathogen class (bacteria, viruses, protozoa). "Challenge water" is synonymous with "test water". This is the experimental water that has been spiked with microbes (a "microbial challenge") in order to demonstrate the potential for the technology to reduce microbes.

[18] World Health Organization. (2017). Guidelines for Drinking-water Quality: fourth edition incorporating the first addendum. Geneva: World Health Organization.

chemical contamination[19] and physical and aesthetic aspects, or in the absence of such requirements, (ii) international standards or guidelines on priority chemical contamination[20] and physical and aesthetic aspects. (parameter SWDS 3)	
i. The project must conduct annual water hygiene education campaigns for the end-users. (parameter SDWS 20).	The VPA organizes relevant water hygiene campaigns annually to sensitize end users. The criteria set in the methodology for this purpose shall be followed.
j. A project applying this methodology may make SDG claims if relevant monitoring parameter(s) is included in the monitoring plan to demonstrate and confirm the project's contributions to SDGs[21]. See parameter SDWS 19.	The VPA intends to claim contribution towards SDGs 1, 3, 4, 5, 6, 7, 8, 9, 12, 13 and 15. The relevant monitoring parameters have been included in the monitoring plan.

The table below lists "Global Goals Community Services Activity Requirements", version 1.2 and how the VPA complies with the criteria:

Para	Community Services Activity Requirements	Justification
Para 2.1.2	All CSA Projects shall lead to climate change mitigation and/or adaptation by providing or improving access to services/resources at the household or community[22] or	This VPA includes distribution of Econeer water filter units to rural communities (HWT) and thus result in climate change mitigation by provided increased access to safe and pure drinking water.

[19] At the global level, the priority chemical contaminants are arsenic and fluoride. In absence of relevant national standards, compliance with the WHO guideline values (maximum 10 µg/L and 1.5 mg/L, respectively) shall be demonstrated.

[20] At the global level, the priority chemical contaminants are arsenic and fluoride. In absence of relevant national standards, compliance with the WHO guideline values (maximum 10 µg/L and 1.5 mg/L, respectively) shall be demonstrated.

[21] Indicator 6.1.1 "Proportion of population using safely managed drinking water services"

[22] Community refers to a group of people who live in the same area (such as a village, city, town, or neighbourhood) and share the services/resources. It shall be treated as guiding principle; the project proponent should refer to applicable rules, regulations, guidelines and official notifications of the host country in this regard. Community may include variety of end-users for example households, commercial facilities such as shops, public services, residential and commercial buildings, small, medium and micro enterprises (SMMEs), etc. Projects that do not include activities providing services

	institution[23] level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.	Therefore, the project falls under CSA project types.
Para 3.1.1	Types of Project – (a) Renewable energy: Renewable energy types such as solar (photovoltaic and solar thermal electricity generation), tidal/wave, wind, hydropower, geothermal, waste to energy and renewable biomass that are connected to mini grid or off grid solutions for targeted users and/or applications. (b) End-use energy efficiency: Project activities that reduce energy requirements as compared to baseline scenario without affecting the level and quality of services or products, where the end-user of the products and services are clearly identified and when the physical intervention is required at the user end. For example, efficient cooking, heating, lighting, etc. (c) Waste management and handling: All waste management activities that deliver energy or a usable product with sustainable development benefits such as composting, biogas etc. (d) Water, sanitation and hygiene (WASH): WASH activities contributing to climate change mitigation and/or adaptation benefits.	(a) This is not a renewable energy types project. Hence, (a) is not applicable for the project. (b) The project is not related energy efficiency device. Hence, (b) is not applicable for the project. (c) The project not handling the waste. Hence, (c) is not applicable for the project. (d)The VPA is a Household water purification project i.e., WASH, which is one of the pre-identified CSA projects. Hence, (d) is applicable.

or access to resources for identified user categories as listed here, for example industrial wastewater treatment projects, are not eligible for Gold Standard certification under CS Requirements.

[23] An establishment with a specific purpose that serves individuals or group of individuals within its premises such as a hospital, school, etc.

Para: 3.1.2	Project area, boundary and scale: Project Area and Boundary shall be defined in line with the applicable Impact Quantification Methodologies and Product Requirements. The definition of scale is the same for all Projects, except Microscale which is defined as: (a) CSA Project issuing emission reductions less than or equal to 10,000 tCO_2eq per annum (b) CSA Project seeking any Gold Standard Certified Impact or Product other than emission reductions and meeting one of the following criteria: • Installed capacity less than equal to 2 MWel /6 MWth that employs renewable energy as the primary technology • Energy savings at a scale of no more than 20 GWh per year where energy efficiency is the primary activity • Achieve GHG emissions reductions at a scale of no more than 20,000 tCO_2eq per annum where project activity type is not included in the above two criteria. (c) For the purpose of applying UNFCCC methodologies for quantification of GHG reductions, 'small scale' is defined as in CDM Modalities and Procedures for three projects types; Renewable Energy, Energy Efficiency and Others. Please refer to the GHG Emission Reductions and Sequestration Product Requirements for more information on the definition of 'small scale'.	The geographical project boundary of this VPA is defined as the Dindori and Anuppur districts of the Madhya Pradesh, India (also detailed in Section A.2 of this document). (a) The estimated emission reduction per annum for the project activity is 5,745 tCO_2eq which is less than the 10,000 tCO_2eq. Therefore, the project is micro-scale project. Thus, (a) is applicable for the project. (b) The estimated emission reduction per annum for the project activity is 5,745 tCO_2eq which is no more than 20,000 tCO_2eq. Thus, (B) is applicable for the project. (c) The UNFCCC CDM methodologies are not using in the project activity for quantification of GHG reduction. Hence (c) is not applicable.

Para: 3.1.3	Certain Impact Quantification methodologies allow projects to account Suppressed Demand scenario when establishing a baseline. In such cases, the application of Suppressed Demand baseline is limited to Small Scale and Microscale Projects. Where a Suppressed Demand baseline is applied, it is not possible to 'stack' Gold Standard Certified Impact Statements or Products as the definition of the baseline may be contradictory.	The scale of this VPA is micro-scale and therefore is eligible under the CSA requirements if applying suppressed demand scenario. Hence this para is applicable for the project.
Para: 3.1.4	3.1.4 Legal ownership: (a) Projects involving the distribution of a large number of devices for services such as heating, cooking, lighting, electricity generation, water treatment technology such as water filter, etc. shall provide a clear description of the ownership of the Products that are generated under Gold Standard Certification all along the investment chain. In line with the FPIC requirement, the proofs that end-users are aware of and willing to give up their rights on Products shall be provided. (b) The transfer of Product ownership shall be discussed during local stakeholder consultations for projects.	(a) Legal ownership of the carbon credits generated under this VPA is with EKI Energy Services Limited (EKIESL). carbon credit ownership agreements for each beneficiary has proof of evidence for legal ownership of the VPA being awarded to the CME. Hence, (a) is applicable. (b) The transfer of Product ownership has been discussed during local stakeholder consultations meeting for the projects. The minutes of meeting is evidence for the same. Hence, this (b) is applicable for the project.

The table below lists "Microscale project requirements", version 1.2[24] and how the VPA complies with the criteria:

Para	**Microscale project requirements**	**Justification**

[24] https://globalgoals.goldstandard.org/standards/108_V1.2_PAR_Microscale-Project-Requirements.pdf

Para 2.1.1 (a)	Type of Project: Eligible project types are as defined by the Gold Standard for the Global Goals Principles & Requirements and in the relevant Activity Requirements.	This VPA includes distribution of Econeer water filter units (HWT) to rural communities living in extreme remote hilly areas for reducing greenhouse gas (GHG) emissions. Therefore, the project falls under CSA project types.
Para 2.1.1 (b)	Location of Project: Projects may be located in any part of the world.	The geographical project boundary of this VPA is defined as the Dindori and Anuppur district of the Madhya Pradesh, India (also detailed in Section A.2 of this document).
Para 2.1.1 (c)	Project Scale: Projects are eligible under the microscale scheme; (i) If the annual emission reductions achieved are limited to a maximum of 10,000 tonnes of CO_2eq in each and every year of the crediting period. Whenever actual emission reductions, as per the verification report, exceed the upper threshold, the project can still request for issuance, but the claimable emission reductions are capped at 10,000 tonnes of CO_2eq per year. OR ii. project seeking Certified Impact other than emission reductions meets the criteria defined within respective Activity Requirements for the project scale.	(i) Annual estimated emission reduction under this real case VPA is less than 10,000 tCO_2eq per annum. Therefore, the voluntary project activity (VPA) comes under micro-scale project activity. Thus, (i) is eligible. (ii) The project contributes 10 SDGs as mentioned in section B.6.Hence, (ii) is applicable.
Para 2.1.1 (d)	Project cycle: Both regular and retroactive projects are eligible to apply under this scheme.	This is a regular project. Hence, (d) is applicable for the project.

The table below lists "Calculation of the fraction of non-renewable biomass", version 4.0[25] and how the VPA complies with the criteria:

[25] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v4.0.pdf

Sl No.	CDM Tool 30 "Calculation of the fraction of non-renewable biomass, version 4.0" applicability requirement	Justification
Para 3	This tool may be used by: (a) DNAs to submit region- or country-specific default fNRB values, following the procedures for development, revision, clarification and update of standardized baselines (SB procedures); or (b) project participants1 to calculate project- or PoA-specific fNRB values.	The tool has been used by the project participant to calculate f_{NRB} values for Madhya Pradesh (project boundary).

B.3. VPA boundary

The project boundary is specified in section 3.1 of the applied GS methodology as follows:

The project boundary includes:

a) the physical, geographical sites of the low- or zero-greenhouse gas-emitting technologies to treat/supply safe drinking water installed by the VPA,
b) any back-up engines or other equipment using fossil-fuel related to the low greenhouse gas emitting technologies,
c) the electricity grid, in the case electricity is used by the project, and
d) The household, commercial and institutional buildings where the end users of safe water provided by the project are located.

The project will eliminate the need for woody fuels in drinking water treatment by using zero-energy water filtration technology. The water filtration system requires no energy input or consumables. The site of the water filters and the surroundings where drinking water that has been filtered using project technology are thus considered to be within the project boundaries. The regions in which the VPA is to be carried out in Dindori and Anuppur district in Madhya Pradesh India. For more information, see section A.2 of the VPA-DD.

The table below displays the greenhouse gases that are contained within or excluded from the project

Source	GHGs	Included?	Justification/Explanation
Baseline	CO_2	Yes	Major source of emisssion
	CH_4	No	Excluded for simplification

	Emission from wood fuels utilized for obtaining safe drinking water displaced due to project activity.	N_2O	No	Excluded for simplification
Project scenario	Emissions from electricity/fossil fuels for operating project water supply/treatment technology	CO_2	No	VPA does not involve consumption of fossil fuels or electricity therefore no CO_2 emissions are generated.
		CH_4	No	VPA does not involve consumption of fossil fuels or electricity therefore no CO_2 emissions are generated.
		N_2O	No	VPA does not involve consumption of fossil fuels or electricity therefore no CO_2 emissions are generated.

B.4. Establishment and description of baseline scenario

Due to unimproved water sources (such as open wells and surface water) and poor water storage conditions, residents in the project region rely on contaminated water for drinking. The households purify their water with alum or inadequate techniques (such as sieve or cloth filtering). Also, the rural people use to boil the water to make it free from any kind of contaminations. Due to barrier issues, households also directly ingest hazardous water. As a result, the community's need for boiled water is constantly subdued.

As per the methodology "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0[26] (Publication Date: 03/05/2021), the VPA baseline scenario are:

(1) end-users that boil unsafe water for drinking in the pre-project scenario

(2) end-users that currently drink unsafe water (suppressed demand)

For both cases the general baseline scenario is applied that the users would have boiled water for drinking in the absence of the project activity. As per GS4GG Principle and Requirements, application of suppressed demand baseline is limited to Micro & Small-

[26] https://globalgoals.goldstandard.org/standards/429_V1.0_EE_SWS_Emission-reductions-from-Safe-Drinking-Water-Supply.pdf

scale activities. Since the VPA falls under the category of micro-scale project activities and will therefore apply the suppressed demand scenario as one of the baseline scenario.

In the suppressed demand scenario, end-users can be included on the basis of relevant documentation that less than the minimum required amount of safe drinking water is available to the end-user due to common barriers (e.g. no awareness, no time to treat by boiling, energy poverty etc.). The principles of suppressed demand are thus applied, and the baseline is set as a proxy technology based on the standard of living achieved by peers.

Selection and justification of the baseline scenario:

As per the section 3.5.1 of applied methodology , the baseline scenario is established in the following steps as part of the baseline study:

1. Pre-project practices of boiling water or drinking unsafe water (suppressed demand): Document the drinking water sources and/or treatment technologies available and used in the project boundary.

2. Efficiency of water boiling systems: Document the baseline stove or water boiling technologies and technologies' thermal efficiency used in the project boundary.

3. Baseline fuels: Document the baseline cooking fuels used and/or fuels used for water boiling in the project boundary.

In the project area two baseline scenarios are present:

(1) boiling water on traditional cook stoves with firewood,
(2) suppressed demand scenario.

The baseline scenarios have been defined based on the baseline survey conducted from 28/02/2023 to 04/03/2023, in Dindori and Anuppur District among 270 households selected by simple random sampling method from the target population.

1. <u>Pre-project practices of boiling water, or drinking unsafe water (suppressed demand):</u>

In the project area, there are two main baseline scenarios:

1. Boiling water using traditional cookstoves with firewood.
2. A suppressed demand scenario, where people would treat their water if resources were available.

CME follows Section 3.4.2 and 3.4.3 of applied Methodology to establish suppressed demand, which says:

3.4.2 | For household end-users currently drinking unsafe water, the principles of suppressed demand are applied, such that the general baseline scenario is assumed to be that users would have boiled water for drinking in the absence of the project activity.
3.4.3 | In line with the paragraph 3.4.2 | above, for the case of end-users currently drinking unsafe water because e.g. energy poverty barriers result in less than the minimum required amount of safe drinking water, the principles of suppressed demand are applied and the baseline is set as a proxy technology (water boiling of an adequate quantity of drinking water) based on the standard of living achieved by peers (adequate supply of safe drinking water). Projects applying the suppressed demand baseline shall take into account any general rules or guidelines for suppressed demand published by the Gold Standard at the time of registration and crediting period renewal, as applicable.

The baseline survey conducted from 28/02/2023 to 04/03/2023 using the GS baseline HWT questionnaire[27] confirms this:

- Out of 270 surveyed households, **94.07% (254 households)** rely on unimproved water sources like Water from Spring (Unprotected well), Dug well (Unprotected well) and Surface water (river, stream, dam, lake, pond, canal, irrigation channel).
    - Of these, **39.76% (101 households)** boil their water for consumption. Please refer the response to the question "If your household could treat water for drinking, food preparation and cleaning, how would you treat it?" in the baseline survey report.
    - The remaining **60.24% (153 households)** do not treat their water but would do so if they had the resources. Refer the response to the question "If your household does not treat water for drinking, food preparation and cleaning, Would you treat it given the proper resources?" in the baseline survey report.

- Out of 270 surveyed households, **5.93% (16 households)** have access to improved water sources, but all of them reported quality issues (unacceptable taste, unacceptable smell, unacceptable colour, or contains materials).
    - **31.25% (5 households)** from this group boil their water. Please refer the response to the question "If your household could treat water for drinking,

[27] https://globalgoals.goldstandard.org/429-4-sdws-bs-survey-questionnaires-hwt/

food preparation and cleaning, how would you treat it?" in the baseline survey report.

- The remaining **68.75% (11 households)** would treat their water if they had the resources. Refer the response to the question "If your household does not treat water for drinking, food preparation and cleaning, would you treat it given the proper resources?" in the baseline survey report

Based on Q13 of the baseline survey, the bifurcation results are as follows:

What is the main source of drinking water for members of your household in the dry season? (please check all that apply)	Nos	Percentage	What is the main source of water used by members of your household for other purposes, such as cooking and hand washing in the rainy season? Please check all that apply.	Nos	Percentage
Water from unprotected Spring	64	23.70%	Water from Spring (Unprotected well)	64	23.70%
Dug well (Unprotected well)	183	67.78%	Dug well (Unprotected well)	183	67.78%
Surface water (river, stream, dam,lake, pond ,canal, irrigation channel)	7	2.59%	Surface water (river, stream, dam, lake, pond, canal, irrigation channel)	7	2.59%
Borehole or tubewell	15	5.56%	Borehole or tubewell	15	5.56%
Piped water	1	0.37%	Piped water	1	0.37%
Total	**270**	**100%**	**Total**	**270**	**100%**

The baseline survey results reveal that a significant majority of households depend on unprotected dug wells for drinking water during the dry season, representing 67.78% of sources. This reliance continues in the rainy season, where dug wells also serve as the primary water source for cooking and handwashing. Unprotected springs contribute to 23.70% of water sources in both seasons. The minimal use of alternative sources, such as boreholes and piped water, points to potential risks concerning water quality and accessibility. These findings underscore the need for improved water management and safety measures to enhance community health.

In respect to the question 30 "Have you or any other household members done anything to this water to make it safer to drink" and question 31 "If your household treats water for drinking, food preparation and cleaning, how do you treat it" the results are as follows:

Have you or any other household members done anything to this water to make it safer to drink?	Nos	Percentage	If your household treats water for drinking, food preparation and cleaning, how do you treat it?	Nos	Percentage
I treat my water	149	55.19%	Boil	106	39.26%
			Strain it through a cloth	42	15.56%
			use water filter (ceramic, sand, composite, reverse osmosis, etc)	1	0.37%
I do not treat my water	121	44.81%	NA	121	44.81%
Total	**270**	**100%**	**Total**	**270**	**100%**

The survey data from 270 households reveals that 55.19% (149 households) actively treat their water to make it safer to drink, while 44.81% (121 households) do not engage in any water treatment practices. Of those treating their water, 39.26% (106 households) boil it, 15.56% (42 households) strain it through a cloth, and a mere 0.37% (1 household) use various types of water filters (ceramic, sand, composite, reverse osmosis, etc.). This indicates that boiling is the most common method of water treatment among the surveyed group, yet nearly half of the respondents still consume water in its untreated state, underlining a significant gap in safe water consumption practices.

This aligns with the suppressed demand principles in Sections 3.4.2 and 3.4.3 of the applied methodology as shown above, as well as in line with the "BS Survey Questionnaires HWT tool", which assume that people would boil water if they had access to proper resources.

C_b (Proportion of project end-users who in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling):

As per the baseline survey conducted by CME, C_b can be calculated as below:

As per baseline survey conducted by the CME, Improved sources (Borehole or tubewell and Piped water) are 5.93% (5.56%+0.37%). 31.25% of households who are getting water from improved sources, boils their water which means 31.25% of 5.93% of improved sources are actually safe for drinking. Additionally, 0.37% households used

some other treatment method (not boiling) to make water safe for drinking. Hence, C_b is calculated as below:

Description	Nos.	%
Total number of samples	270	100%
Borehole or tubewell	15	5.56%
Piped water	1	0.37%
use water filter (ceramic, sand, composite, reverse osmosis, etc)	1	0.37%

$$C_b = (5.56\%+0.37\%)*31.25\% + 0.37\% = 2.22\%$$

This is also cross checked with Central Pollution Control Board (CPCB) water quality testing reports under their National Water Quality Monitoring Programme (NWQP) which is done in all states including Maharashtra[28].

This result is supported by various studies as given below:

- As per various studies (2023)[29] conducted in India, 91 million people in the country still do not have access to clean drinking water.
- As per a report by Centre for Affordable Water and Sanitation Technology (CAWST)[30], found that India has the highest rate of water-borne illness deaths in the world, despite having high access to improved water sources. Sources such **as untreated tap water, hand pumps, and bore/tube wells** are all included in the definition of improved water sources but can be easily contaminated during collection and distribution.
- Independent audits conducted by the Central Pollution Control Board of India (CPCB[31]) have revealed that even water from improved sources in different parts of India often contains high levels of E. coli contamination
- A study in Dindori, "Physico-chemical analysis of groundwater during monsoon and winter season of Dindori district, India"[32] shows, 57% of total samples exhibited slightly higher values of one or more parameters (including BOD) than the desirable limit, i.e., amount up to that a particular parameter can be present in drinking water. The process of water filtration for these water sources may be

[28] https://cpcb.nic.in/wqm/2021/NWMP_DATA_2021.pdf

[29] https://iwaponline.com/wp/article/25/10/980/97931/Determinants-of-access-to-improved-drinking-water

[30] https://www.engineeringforchange.org/research/household-water-treatment-trends-india/

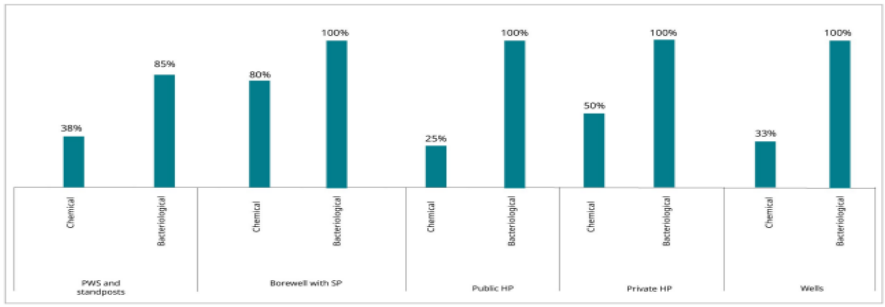
[31] NWMP_DATA_2022.pdf

[32] https://www.sciencedirect.com/science/article/abs/pii/S2352801X21000060

adopted for getting drinking water. This water is, therefore, not suitable for drinking and domestic purposes.

- Another Dindori study[33] conducted for households with access to piped water supply (PWS), and households using all other types of water sources (public hand pumps, standposts) in Dindori says, Water quality tests from different sources revealed that 92.5 per cent were bacteriologically contaminated above acceptable limits. The major bacteriological contaminants were total coliform, faecal coliform and E. coli.

Graph 8
Water contamination by source (based on lab test results) (n=27)



- One news report article[34] also highlighted the drinking water situation, as per the article, the highest number of about 350 patients with diarrhoea were found in Dindori district and five of them died. Tests have been carried out on the patients, and water contamination has been found at some places. People are advised to drink water after boiling it. The supply of borewell water in the affected areas has been stopped and water is being provided through tankers.

This data indicates that most people are prone to drinking unsafe water if it is not treated properly. This can be attributed to a lack of awareness about waterborne diseases, resulting in suppressed demand for adequate water treatment.

2. <u>Baseline stoves</u>

In respect to the question 37 "Which types of main stoves do you use most frequently for boiling water" of the baseline survey form, the results are as follows:

Types of Stoves	**Number of Respondents**

[33] https://www.wateraid.org/in/sites/g/files/jkxoof336/files/town-report-dindori-madhya-pradesh.pdf
[34] https://www.thehindu.com/sci-tech/health/diarrhoea-claims-17-lives-in-3-districts-of-mp-in-ongoing-rainy-season/article68472673.ece

Three - stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system.	270

The data reveals that all respondents (270nos.) predominantly use a three-stone fire or a conventional cookstove for boiling water. This method relies on woody biomass and lacks modern improvements, which could impact both efficiency and safety in water treatment.

Efficiency of the "Three - stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system" is 10%35 as per methodology default value.
Although this conventional stove is the primary cooking method, as per CEEW report released in 2021 (please refer the next para) a small percentage of households use LPG stoves, for which an efficiency of 57% 36 has been considered.

3. Baseline fuels:

To comply with the baseline scenario requirements, the CME conducted a baseline survey from 28/02/2023 to 04/03/2023 targeting the relevant population. The survey followed the GS Baseline Questionnaire, ensuring alignment with applicable methodologies.

The survey results indicate that all 270 households are using firewood as primary cooking fuel. CME cross-verified this finding with the latest national data, specifically the CEEW report[37] released in 2021.

According to the CEEW report, LPG penetration in rural areas of Madhya Pradesh is 54%. However, In Madhya Pradesh, due to high LPG refill costs, easy access to free biomass, limited LPG distributors, and the fact that the targeted households belong to the BPL (Below Poverty Line) category, the survey result in the CEEW report identified that in Madhya Pradesh, 89% of rural households with LPG connection consider LPG too expensive to meet their cooking needs. Based on this, the estimated percentage of households using LPG as the primary cooking fuel is:

[35] As per the Parameter ID: SDWS 11 of applied methodology.
[36] CEEW-Roadmap-for-Access-to-Clean-Cooking-Energy-in-India-Report-31Oct19-min.pdf
[37] https://www.ceew.in/sites/default/files/ires-report-on-state-of-clean-cooking-energy-access-in-india.pdf

x_f for LPG = (100%−89%) × 54% = **5.94%**

x_f for wood = (100%−5.94%) = **94.06%**

According to National Family Health Survey 2019-21 (NFHS-5)[38], This figure represents Households using clean fuel for cooking in rural Madhya Pradesh is 23.6%, Thus the percentage of LPG usage is:

x_f for LPG = (100% − 89%) × 23.6% = 2.6%

Considering values from CEEW report is more conservative, hence, CEEW value has been considered which is 5.94% for boiling using LPG.

This approach ensures that the baseline scenario is robustly demonstrated, incorporating both primary survey data and relevant national-level insights

Determination of Fraction of Non-Renewable Biomass (f_{NRB}) value:

The baseline f_{NRB} has been calculated using the CDM Tool 30, v 04.0[39].
The fraction of woody biomass that can be established as non-renewable is given below:
As per the equation 1 of CDM Tool 30, v 04.0

$$f_{NRB} = \frac{NRB}{NRB + RB}$$

Where:

f_{NRB} = Fraction of non-renewable biomass in the applicable area in the relevant period (fraction or %)
NRB = Quantity of non-renewable biomass consumed in the applicable area in the relevant period (tonnes)
RB = Quantity of renewable biomass that is available on a sustainable basis in the applicable area in the relevant period (tonnes)

Commercial use of woody biomass for non-energy purposes (such as building or furniture) that is derived from forests or other land areas in the relevant area (tonnes)
As per the equation 2 of CDM Tool 30, v 04.0

NRB = H – RB

Where:

[38] NFHS-5_Phase-II_0.pdf
[39] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v4.0.pdf

H = Total consumption of woody biomass in the applicable area in the relevant period (tonnes)

The following equation accounts for all consumption within the relevant area to determine the overall consumption of woody biomass (H).

As per the equation 3 of CDM Tool 30, v 04.0

$$H = HW \times N + CE + NE$$

Where:

HW = Average consumption of wood fuel per household, including fuelwood and charcoal, in the applicable area in the relevant period (tonnes//household)
N = Number of households consuming wood fuel within the applicable area in the relevant period (number)
CE = Commercial woody biomass consumption for energy applications (e.g. commercial, industrial or institutional uses of woody biomass in ovens, boilers etc.) that are extracted from forests or other land areas in the applicable area in the relevant period (tonnes)
NE = Commercial woody biomass consumption for non-energy applications (e.g. construction, furniture) that are extracted from forests or other land areas in the applicable area in the relevant period (ton

Wood density of Species found in Madhya Pradesh of top 5 species[40]:

Species	**Wood density**[41]
Tectona grandis	0.525
Shorea robusta	0.720
Anogeissus latifolia	0.785
Lannea coromandelica	0.540
Terminalia tomentosa	0.750

Parameter	**Value**	**Unit**	**Source**
Quantity of wood used in house construction	26.262	In Million cums	https://fsi.nic.in/cover_2011/chapter7.pdf#
Quantity of wood used in Furniture	1.817		

[40] https://fsi.nic.in/isfr-2021/chapter-13.pdf#121
[41] https://www.fao.org/4/w4095e/w4095e0c.htm

Quantity of wood in agriculture implements	1.750		page=10 ,Refer Page 76
Bamboo utilized	0.620	In million tones	https://fsi.nic.in/isfr19/vol1/chapter10.pdf#page=7 ,Refer Page 161
Total	20.450	Million Tonnes	Calculated

As the parameters HW and N, disaggregated value is not provided, hence we will be using an aggregated value of (H × N) in the calculations.

HW × N (million tonnes)	CE (Million tonnes)	NE (Million tonnes)	**H (Million tonnes)**
13.665 [42]	0	20.449	**34.114**

Cross check for the total consumption of Wood fuel in households of Madhya Pradesh state:

Additionally, cross-verification of fuel wood demand has also been done using an alternative approach (as specified in Data/Parameter Table 1 of Tool 30) by using default value of woody biomass consumption per person, as given in Tool 33, multiplied by the average household size. When compared to the FSI estimates, the FSI-derived values were found to be more conservative and were therefore used in the fNRB calculation. Calculation is shown below:

Parameter	Value	UOM	Source	Link	Remark
Total Population of Madhya Pradesh	72626809		Census 2011	https://censusindia.gov.in/census.website/data/census-tables	Since 2011 is the last census carried out in India, 2011 population and household information is being considered
Rural Population of Madhya Pradesh	52557404		Census 2011	https://censusindia.gov.in/census.website/data/census-tables	Since the last census conducted in India was in 2011, we are considering rural population and household information from that year. However, it's important to note that this approach is conservative because the rural population has been steadily increasing since 2011 along with the total population of India. According to World Bank data

[42] https://fsi.nic.in/cover_2011/chapter7.pdf#page=11

					(https://data.worldbank.org/indicator/SP.RUR.TOTL?end=2022&locations=IN&start=1960&view=chart), the rural population reached 909,384,771 in 2021. Therefore, using data from the 2011 Census can be considered conservative.
Total Household of Madhya Pradesh	15093256		Census 2011	https://censusindia.gov.in/census.website/data/census-tables	
Number of Rural Household in Madhya Pradesh	11080278		Census 2011	https://censusindia.gov.in/census.website/data/census-tables	
Persons/household (Rural)	4.74		Calculated		
Rural Household using firewood	93.8%		NSS Report No. 558: Household Consumption of Various Goods and Services in India, 2011-12	https://www.mospi.gov.in/sites/default/files/publication_reports/Report_no558_rou68_30june14.pdf	Since 68th round of survey for year 2011-12 was the last study carried out towards estimating the household level firewood consumption the same study is used.
Default percapita firewood usage	0.4	ton/capita	Tool 33 for FNRB calculation		
Rural Household firewood usage	1.897	tonne/annum	Calculated		
Total Firewood usage (rural)	19.72	million tonne	Calculated		
Total consumption of Wood fuel in households of Madhya Pradesh state (HW*N)	**19.72**	**million tonne**			

Procedure to estimate the quantity of renewable biomass available (RB):
As per the equation 4 of CDM Tool 30, v 04.0

$$RB = \sum \left(MAI_{forest,i} \times \left(F_{forest,i} - P_{forest,i} \right) \right) + \sum \left(MAI_{other,i} \times \left(F_{other,i} - P_{other,i} \right) \right)$$

Where:

RB = Renewable Biomass
$MAI_{forest,i}$ = Mean Annual Increment of woody biomass growth per hector in sub-category i of forest areas in the relevant period (tonnes/ha/yr).
$MAI_{other,i}$ = Mean Annual Increment of woody biomass growth per hector in sub-category i of outside areas in the relevant period (tonnes/ha/yr).
$F_{forest,i}$ = Extent of forest in sub-category i in the relevant period (ha)
$F_{other,i}$ = Extent of forest in sub-category i in other land in the the relevant period (ha)
$P_{forest,i}$ = Extent of Non-accessible area within forest areas in the relevant period (ha)
$P_{other,i}$ = Extend of other land in sub-category i in the relevant period (ha)

Mean Annual Increment of woody biomass growth per hector in sub-category i of forest areas in the relevant period (tonnes/ha/yr)[43]

[43] https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch04_Forest%20Land.pdf

$MAI_{forest,i}$	=	*Mean Annual Increment of woody biomass growth per hector in sub-category i of forest areas in the relevent period (tonnes/ha/yr).*

IPCC, Forest Land, Volume 4, Table-4.9

Ecological Zone	Status Condition	Above Ground Biomass	Unit
Tropical Dry Forest	Secondary > 20 Years	1.60	tonnes/hectare/year
	Secondary < 20 Years	3.90	tonnes/hectare/year
	Primary	0.00	
Average		1.83	tonnes/hectare/year
Tropical Shrublands	Secondary > 20 Years	1.30	tonnes/hectare/year
	Secondary < 20 Years	5.00	tonnes/hectare/year
	Primary	1.30	
Average		2.53	tonnes/hectare/year
Tropical Rainforest	Secondary > 20 Years	2.70	tonnes/hectare/year
	Secondary < 20 Years	3.40	tonnes/hectare/year
	Primary	0.70	
Average		2.27	tonnes/hectare/year
Tropical Moist Deciduous Forest	Secondary > 20 Years	0.90	tonnes/hectare/year
	Secondary < 20 Years	2.40	tonnes/hectare/year
	Primary	0.40	
Average		1.23	tonnes/hectare/year
Tropical Mountain Forest	Secondary > 20 Years	1.10	tonnes/hectare/year
	Secondary < 20 Years	2.90	tonnes/hectare/year
	Primary	-0.70	
Average		1.10	tonnes/hectare/year
Sub-tropical Humid Forest	Secondary > 20 Years	1.00	tonnes/hectare/year
	Secondary < 20 Years	2.50	tonnes/hectare/year
	Primary	0.00	
Average		1.17	tonnes/hectare/year
Sub-tropical steppe	Secondary > 20 Years	1.30	tonnes/hectare/year
	Secondary < 20 Years	5.00	tonnes/hectare/year
	Primary	1.30	
Average		2.53	tonnes/hectare/year
Sub-tropical Mountain System	Secondary > 20 Years	0.00	tonnes/hectare/year
	Secondary < 20 Years	0.50	tonnes/hectare/year
	Primary	2.50	
Average		1.00	tonnes/hectare/year
Coniferous	Secondary > 20 Years	2.10	tonnes/hectare/year
	Secondary < 20 Years		tonnes/hectare/year
	Primary		
Tundra	Secondary > 20 Years	0.40	tonnes/hectare/year
	Secondary < 20 Years		tonnes/hectare/year
	Primary		
Boreal	Secondary > 20 Years	1.50	tonnes/hectare/year
	Secondary < 20 Years	1.10	tonnes/hectare/year
	Primary	1.10	
Average		1.23	tonnes/hectare/year

$MAI_{forest,I}$ = 1.66 tonnes/hectare/year
$MAI_{other,I}$ = 1.66 tonnes/hectare/year

$MAIforest,i$	$MAIother,i$	$Fforest,i$ (Million Ha)	$Pforest,i$(Million Ha)	$Fother,i$(Million Ha)	$Pother,i$ (Million Ha)
1.661	1.661	7.749[44]	7.610[45]	2.078[46]	0

The fraction of woody biomass that can be established as non-renewable for all locations:

H	**RB**	**NRB**	**Fnrb**
34.114	3.683	30.431	**89.20%**

CME has wisely used the most recent data that is accessible, which comes from 2021, and has carefully calculated figures while adhering to Tool 30 version 4. Additionally, a value range for India as a whole is provided by the previously stated literature. To account for India's variability in biomass regrowth as well as its geographical, ecological, and land use heterogeneity at the sub-national and state levels, PP has calculated f_{NRB} state-by-state. This supports the idea that the regional variances in the places where the project water filters are installed can be appropriately accounted for without depending on a national-level number.

B.5. Demonstration of additionality

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	As per the methodology "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0, Paragraph 3.3.2 (a), additionality can be demonstrated based on the applicable GS4GG Activity Requirement. Now, the GS4GG Community Services Activity Requirements Version 1.2, Paragraph 4.1.9, specify that projects that meet any of the following criteria are deemed additional:

[44] https://fsi.nic.in/isfr-2021/chapter-13.pdf#page=116 (Refer to Table 13.14.2 at page 368, the value given in sq km and CME has converted into million Ha as per CDM tool 30 requirements).
[45] Calculated value: Refer fNRB calculation sheet for the details (for the ratio of protected and reserved forest please refer link: FSI_ISFR_2021_Chapter 1,Table 1.2.pdf
[46] https://fsi.nic.in/isfr-2021/chapter-13.pdf#page=121 (Refer to section 13.14.5 at page 373, the value given in sq km and CME has converted into million Ha as per CDM tool 30 requirements).

	(a) Positive list (Annex B of Community Service Activity Requirements) (b) Projects located in LDC, SIDS, LLDC (c) Microscale projects Annex B of Community Service Activity Requirements Version 1.2, Paragraph 1.1.3 specify that activities are composed of isolated units where the users of the technology/ measure are households or communities or institutions and where each unit results in ≤600 MWh of energy savings per year or ≤600 tonnes of emission reductions per year.
Describe how the proposed VPA meets the criteria for deemed additionality.	The CME demonstrates the additionality at real case VPA level in line with the Principles and Requirements or applicable Activity or Methodology Requirements using one of the following options: a) Positive lists of technologies or deemed additionality criteria as per applicable activity requirements. If the VPA is a type of VPA which is deemed automatically additional, the table above may be completed to demonstrate additionality b) With the exception of specific GS4GG Activity or Product Requirements as stated in the relevant standards, Gold Standard-approved Additionality tool or an applicable CDM EB approved additionality tool: i. Tool for the demonstration and assessment of additionality (Tool 01), ii. Combined tool to identify the baseline scenario and demonstrate additionality (Tool 02),

	iii. Demonstration of additionality of small-scale project activities, under specific Activity Requirements for small-scale Projects (Tool 21). iv. Additionality of first-of-its-kind project activities (Tool 23) v. Positive lists of technologies (Tool 32) CME choose option (a) to meet the VPA additionality criteria. The VPA under the VPA is solely composed of isolated units. Each Water Filter unit of the Project results in about 2.92 tonnes of emission reductions per year. This is less than the maximum 600 tonnes per year specified in Annex B of Community Service Activity Requirements Version 1.2, Paragraph 1.1.3. Criteria (a) of the Requirements are met, therefore the Project is additional.

B.5.1. Prior Consideration

Not Applicable.

B.5.2. Ongoing Financial Need

The project is neither under Design Certification Renewal nor required to demonstrate financial additionality being a micro scale VPA. Ongoing financial need is not applicable.

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

		SDG IMPACT
SUSTAINABLE DEVELOPMENT GOALS TARGETED	MOST RELEVANT SDG TARGET	**INDICATOR (PROPOSED OR SDG INDICATOR)**
13 Climate Action (mandatory)	13.2 Integrate climate change measures into national policies, strategies and planning	13.2.2 Total greenhouse gas emissions per year

1 - No Poverty	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services, including microfinance Contribute to providing access to basic services i.e. clean drinking water solutions (Household Water Treatment units- Econeer) considered as basic service to the poor and vulnerable communities of India.	SDG Impact: Increased access to basic services (water treatment). Indicator 1.4.1: Proportion of population living in households with access to basic services (water treatment) Project specific Indicator: Total number of premises with at least one water filter distributed / installed under the project.
3 - Good Health and Well-being	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination.	SDG Impact: Improvement in Indoor Air Quality & reduction in incidences of waterborne diseases such as skin rashes, diarrhoea, foot sores, parasites, eye problems and other waterborne diseases Indicator 3.9.1: Mortality rate attributed to household and ambient air pollution Project-specific Indicator: % users reporting reduction in incidences of waterborne diseases such as skin rashes, diarrhea, foot sores, parasites, eye problems and other waterborne diseases

4 - Quality education	4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	SDG Impact: Increase soft skills, technical skills and awareness to safe drinking water. Indicator 4.3.1: Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex Project specific Indicator: Number of employees who have undergone skill development training
5 - Gender equality	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	SDG Impact: Reduced unpaid care and domestic work for women Indicator 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age, and location. Project-specific Indicator: % Users reporting a time-saving in fuel collection after shifting to Econeer water filter.
6 – Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	SDG Impact: Access to improved source of water. 6.1.1: Proportion of population using safely managed drinking water services Project Specific Indicator: No of people who have access the water filter.

		SDG Impact: Improves access to clean water and air quality in homes
7 – Affordable and clean energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.2 Proportion of population with primary reliance on clean fuels and technology. Project specific Indicator: Total number of premises with at least one water filter distributed under the VPA.
8 - Decent Work and Economic Growth	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	SDG Impact: No of employment generation 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities Project specific Indicator: Total no of jobs created (in distribution, Monitoring & Evaluation).
12- Responsible Consumption & Production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	SDG Impact: Amount of renewable biomass saved Indicator 12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP Project-specific Indicator: Reduction in consumption of renewable biomass.
15- Life on land	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	SDG Impact: Amount of non-renewable biomass saved Indicator 15.2.1: Progress towards sustainable forest management. Project-specific Indicator: Reduction in consumption of non-renewable biomass.

B.6.1. Explanation of methodological choices/approaches for estimating the SDG Impact

As per applied methodology "Emission reductions from safe drinking water supply[47]" version 1.0 the emission reductions are calculated as follows:

As per para 3.9 Equation 11
$ER_y = BE_y - PE_y - LE_y$
Where:
ER_y = Emission reductions in year y (tCO_2e/yr)
BE_y = Baseline emissions in year y (tCO_2e/yr)
PE_y = Project emissions in year y (tCO_2e/yr)
LE_y = Leakage emissions in year y (tCO_2e/yr)

Baseline Emissions Per the methodology "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0 (Publication Date: 03/05/2021), the baseline emissions are calculated as follows:

As per para 3.6.3 Equation 3 baseline emissions shall be calculated as follows:

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

Where:

BE_y	= Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO_2e)
EF_b	= Emission factor for the use of fuel to obtain safe water in the baseline (tCO_2e/L)
C_b	= Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)
$X_{cleanboil,y}$	= Proportion of project end-users that boil safe water in the project year *y* (%)
Q_y	= Quantity of safe drinking water provided by the project in year *y* (L)
$M_{q,y}$	= Modifier for the water quality in year *y*

[47] https://globalgoals.goldstandard.org/standards/429_V1.0_EE_SWS_Emission-reductions-from-Safe-Drinking-Water-Supply.pdf

As the VPA is HWT, as per para 3.6.7 Equation 6 of the applied methodology the quantity of safe drinking water provided by the project Q_y is determined using "Method 2 - HWT and IWT technologies" of the applicable methodology:

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

Where:

$N_{p,y}$ = Number of premises type *p* with at least one project technology in year *y*

$U_{p,y}$ = Usage rate of the project technology by premises type *p* during year *y* (%)

$QPW_{\text{hh,p,y}}$ = Volume of drinking water per premises *p* per day in year *y* (L/day)

$DP_{p,y}$ = Days the project technology is present for end-users in the premises *p* in year *y*

The proportion of end-users who in the baseline were already using a safe water supply that did not require boiling will be defined based on the baseline survey results. The proportion of project end-users that boil safe water in the project scenario (project year y) will be calculated based on project survey results. This includes households that boil safe drinking water treated with the project technology. Point to be noted that, the volume of drinking water per person per day ($QPW_{hh,p,y}$) for premises type are capped at 4 Litres (default value as per applied methodology) per person per day.

Baseline Emission Factor:

The baseline emission factor shall be calculated as per para 3.6.1 Equation 1 of the applied methodology as follows:

$$EF_b = SE_{w,b,y} \times \sum_f x_f \times \left(EF_{b,f,co2} \times f_{NRB,f,y} + EF_{b,f,nonco2}\right) \div 10^9$$

Where:

EF_b = Emission factor for the use of fuel to obtain safe water in the baseline (tCO_2e/L)

$SE_{w,b,y}$ = Specific energy required to boil water (kJ/L), to be calculated as per the paragraph below

x_f = Proportion of fuel *f* used in the baseline (fraction determined based on an energy basis)

$EF_{b,f,CO2}$ = CO_2 emission factor from use of fuel *f* (tCO_2/TJ)

$EF_{b,f,nonCO2}$ = Non-CO_2 emission factor arising from use of fuel *f*, when the baseline fuel *f* is biomass or charcoal (tCO_2e/TJ). This parameter is omitted when *f* is a fossil fuel.

$f_{NRB,f,y}$ = Fractional non-renewability status of woody biomass fuel during year *y* (fraction). For biomass, it is the fraction of woody biomass that can be established as non-renewable. This parameter is omitted when *f* is a fossil fuel.

f = Index for baseline fuel types

The specific energy required to boil water using the baseline technology ($SE_{w,b,y}$) is determined as follows, by calculating the energy input required to obtain 1 L of boiling water, including boiling and vaporization losses[48], taking into account default or measured stove efficiency.

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

Where:

360.83 = Default amount of energy required to obtain 1 L of water after 5 minutes of boiling from a first principles approach[49] kJ/l

η_{wb} = Efficiency of the stoves for baseline water boiling (%). Weighted average of baseline stove types.

The volume of drinking water per premises per day is determined by considering whether the capacity of the project device is sufficient to provide at least the default amount of drinking water, as follows:
As per para 3.6.8 equation 7 of the applied methodology

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

Where:

q_i = Capacity of the HWT or IWT individual project technology (L/h)

$t_{p,y}$ = Usage time of the project technology by premises type *p* in year *y* (h/day)

$DN_{p,y}$ = Average number of individual project technologies in each project premises type *p* in year *y*

$HN_{p,y}$ Number of individuals per premises type *p* (e.g. household, school) in year *y*

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

[49] This is calculated from the specific heat of water of 4.186 kJ/L ^{0}C, the difference between the initial and final water temperature assuming a start at 20 ^{0}C and end at 100 ^{0}C, evaporation of 1% of water during 5 minutes of boiling to obtain 1 L boiled water, and latent heat of water evaporation of 2260 kJ/L. Also, the latent heat required to boil one litre of water for five minutes is assumed to be equivalent to latent heat for the evaporation of 1 per cent of the water volume.

QPW_p = Volume of drinking water per person per day for premises type *p* (L). Apply the default value or monitored value through water consumption field tests in the project scenario, capped at 4 L per person per day.

Project Emissions

As per the methodology "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0, the project emissions may result from the operation of new low-emission water treatment technologies. Project emissions (PE_y) shall be calculated as follows:

As per para 3.7.1 Eq-8

$PE_y = PE_{ff,p,y} + PEec,p,y$

Where:
PE_y = Project emissions in year y (tCO_2e)
$PE_{ff,,}$ = Project emissions from fossil fuel use in year y (tCO_2)
$PE_{ec,}$ = Project emissions from electricity use in year y (tCO_2)

As the VPA not uses electricity or fossil fuel for operation and uses a zero-emission technology i.e., gravitational water filtering through hollow fiber filters. Thus, there are no any project emissions.

So, the project emission (PE_y) = 0 tCO_2e per year.

Leakage Emissions

Where relevant, leakage relating to the non-renewable woody biomass shall be assessed as follows. Other types of leakage are excluded for simplification. Leakage emissions, LEy, shall be calculated as follows:

The CME has evaluated, ex-ante, the following potential sources of leakage and provide an evidence-based description and preliminary quantification of each potential source and its relevance for the project as per para 3.8.2 of the GS methodology Emission Reductions from Safe Drinking water solutions:

a. A survey was conducted to verify if the use of non-renewable biomass has increased among the members of the population who do not participate in the project, and were previously using lower emitting energy sources. The survey showed that the NRB consumption has not increased in the non-participating members of the population and they have plenty of forest wood available in the region.

b. The purpose of the project is reducing the use of NRB otherwise used in conventional three stone fired traditional cookstoves for boiling water and instead use Household gravity-based water purifier i.e. Econeer which does not require any NRB or any other fuel for its operations. So, the project would actually help in increasing the NRB fraction in that area. Therefore, the condition that the project involves reducing

the NRB fraction within an area where other GHG mitigation project activities account for NRB fraction in their baseline scenario is not applicable, hence no leakage emissions are to be applicable for the project activity.

c. The project population and the project boundary are in the area where the annual average temperature is above 20°C. Hence there is no requirement to compensate for loss of the space heating effect of water boiling by adopting some other form of space heating or by retaining some baseline wood fuel-burning practices.

Thus, the leakage emissions can be considered as nil and can be ignored for the project activity.
Hence,

$LE_y = 0\ tCO_2e$

SDG 1: No Poverty

SDG Target and Indicator	Equation/calculation
SDG Target: 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services, including microfinance Indicator 1.4.1: Proportion of population living in households with access to basic services. Project specific Indicator: Total number of premises with at least one water filter distributed under the VPA. **Approach:** Monitor the number of Water Filter distributed under the project as an indicator of providing basic service access to households	**1. water filter distribution records** Net Benefit (SDG 1) = $\mathbf{N_{p,y}}$ Where: $N_{p,y}$ = Access to basic services (Accumulated number of premises type p with at least one individual project technology in year y)

SDG 3: Good Health and Well Being

SDG Target and Indicator	Equation/calculation

SDG Target: 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination. Indicator 3.9.1: Mortality rate attributed to household and ambient air pollution Project-specific Indicator: % users reporting reduction in incidences of waterborne diseases such as skin rashes, diarrhea, foot sores, parasites, eye problems and other waterborne diseases **Approach:** Monitoring Surveys conducted to record % users reporting a reduction in smoke/PM after they start using the water filter.	**Ex-post Monitoring Surveys Records** Net Benefit (SDG 3) = $SPM_{HH,Project}$ Where: $SPM_{HH,Project}$ = % HH reporting reduction in smoke/PM emissions after they start using the water filter in project scenario

SDG 4: Quality Education

SDG Target and Indicator	Equation/calculation
SDG Target: 4.3. By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university Indicator 4.3.1: Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex Project-specific indicator: number of employees who have undergone skill development training. **Approach:** Monitor the number of awareness programs/training in a year.	**Ex-post Monitoring Surveys Records** Net Benefit (SDG 4) = $AP_{Project}$ - $AP_{Baseline}$ Where: $AP_{Baseline}$ =Number of Awareness program/training for using baseline =0 $AP_{Project}$ =Number of Awareness program/training for using project scenario=1

SDG 5: Gender Equality

SDG Target and Indicator	Equation/calculation
SDG Target: 5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social	**Ex-post Monitoring Surveys Records** Net Benefit (SDG 5) = $HHT_{Project}$ - $HHT_{Baseline}$

protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. Indicator 5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age, and location. Project-specific Indicator: % Users reporting a time-saving in fuel collection after shifting to Econeer water filter. **Approach:** Monitor the % users reporting time-saving due to reduction in collected fuel consumption/ water boiling time in the project	Where: $HHT_{Baseline}$ = % HH reporting time saving due to reduced collected fuel consumption/water boiling time in baseline scenario = 0 $HHT_{Project}$ = % HH reporting time saving due to reduction in time saving to collect fuel wood/ water boiling time in project scenario = 100%

SDG 6: Clean Water and Sanitation

SDG Target and Indicator	Equation/calculation
SDG Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all Indicator 6.1.1: Proportion of population using safely managed drinking water services Project Specific Indicator: No of people who have access the water filter. **Approach:** Monitor the number of Water Filter distributed/installed under the VPA as an indicator of providing basic service access to households.	**Water filter distribution records** Net Benefit (SDG 6) = $\mathbf{N_{p,y}}$ Where: $N_{p,y}$ = Access to basic services (Accumulated number of premises type p with at least one individual project technology in year y)

SDG 7: Affordable and clean energy

SDG Target and Indicator	Equation/calculation
SDG Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services. Indicator- 7.1.2 Proportion of population with primary reliance on clean fuels and technology.	**Water filter distribution records** Net Benefit (SDG 7) = $\mathbf{N_{p,y}}$ Where:

Project specific indicator: Number of unique households that were provided access to clean water purification technology i.e. Econeer water filter. **Approach:** Monitor the number of Water Filter distributed/installed under the VPA as an indicator of providing basic service access to households.	$N_{p,y}$ = Access to basic services (Accumulated number of premises type p with at least one individual project technology in year y

SDG 8: Decent Work and Economic Growth

SDG Target and Indicator	Equation/calculation
SDG 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: Indicator 8.5.1: Average hourly earnings of employees, by sex, age, occupation and persons with disabilities Project specific indicator: Total no of jobs created (in distribution, Monitoring & Evaluation). **Approach:** Recording the number of employees (male/female) in the project under administrative, distribution, and management positions	**Employment records** Net Benefit (SDG 8) = $IG_{Project}$ Where: $IG_{Project}$ = Quantitative Employment and income generation (Number of persons (male and female) hired under Project scenario)

SDG 12 - Responsible Consumption & Production

SDG Target and Indicator	Equation/calculation
SDG Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources Indicator 12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP Project specific Indicator :Reduction in consumption of renewable biomass	Net Benefit (SDG 12) = $[Q_y*(360.83/\eta_{wb})*Xf_{wood}/15.6*10^3]*(1-f_{NRB,f,y})$ Where, η_{wb} = Efficiency of used cookstove in the baseline scenario Qy= Quantity of safe drinking water provided by the project. $f_{NRB,f,y}$= Fraction of non-renewable bio-mass. $15.6*10^3$= NCV of wood in KJ/Kg

Approach: Recording the amount of renewable biomass saved due to VPA.	

SDG 13 – Climate Action

SDG Target and Indicator	Equation/calculation
SDG Target 13.2 :Integrate climate change measures into national policies, strategies and planning. Indicator: 13.2.2 Total greenhouse gas emissions per year **Approach:** Total greenhouse gas emissions per year	Net Benefit (SDG 13) = $BE_y = EF_b \times (1 - C_b - X_{cleanboil},) \times Q_y \times M_{q,}$ Where: BE_y = Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO_2e) EF_b = Emission factor for the use of fuel to obtain safe water in the baseline (tCO_2e/L) C_b = Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%) $X_{cleanboil,y}$= Proportion of project end-users that boil safe water in the project year *y* (%) Q_y = Quantity of safe drinking water provided by the project in year *y* (L) $M_{q,y}$ = Modifier for the water quality in year *y*

SDG 15 - Life on land

SDG Target and Indicator	Equation/calculation
SDG Target 15.2 :By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally Indicator 15.2.1: Progress towards sustainable forest management. Project-specific Indicator: Reduction in consumption of non-renewable biomass.	Net Benefit (SDG 15) = $[Q_y*(360.83/\eta_{wb}) *X_{f,wood}/15.6*10^3]*f_{NRB,f,y}$ Where, η_{wb} = Efficiency of used cookstove in the baseline scenario Qy= Quantity of safe drinking water provided by the project. $f_{NRB,f,y}$= Fraction of non-renewable bio-mass. $15.6*10^3$= NCV of wood in KJ/Kg

Approach: Reduction in consumption of non-renewable biomass for boiling water. Households will utilize less woody biomass that is not renewable. The ensuing decline in demand slows deforestation, raising the proportion of renewable energy in the project area's overall final energy consumption.	

B.6.2. Data and parameters fixed ex ante

a. Related to water quality
SDG 13.2.2

<table>
<tr><td>Data/parameter</td><td colspan="3">SDWS 2: Project technology description</td></tr>
<tr><td>Unit</td><td colspan="3">NA</td></tr>
<tr><td>Description</td><td colspan="3">• Vendor: GHG Reduction Technologies Pvt. Ltd.
• Product name: Econeer
• Technology type: Hollow Fibre
• Performance target classification as per the WHO International Scheme to Evaluate Household Water Treatment Technologies or proof of compliance with an applicable national standard or guideline for drinking water treatment technologies: filters have been tested for filtration efficacy for the parameters E. coli, -Staphlococcus Aureas and Salmonella and have been found to remove the bacteria by up to 99.9%.</td></tr>
<tr><td>Source of data</td><td colspan="3">Manufacturer specifications:</td></tr>
<tr><td>Value(s) applied</td><td colspan="3">Specifications of Econeer Filter
<table>
<tr><td>Cartridge Name</td><td colspan="2">Gravity Filter by Econeer</td></tr>
<tr><td>Types of filter</td><td colspan="2">Hollow Fibre</td></tr>
<tr><td>Length of Cartridge (mm)</td><td colspan="2">80</td></tr>
<tr><td>Diameter (mm)</td><td colspan="2">65</td></tr>
<tr><td>Active Surface area (m²)</td><td colspan="2">0.45216 m²</td></tr>
<tr><td rowspan="2">Flowrate</td><td>Operating Pressure</td><td>0.1 -0.3 Mpa</td></tr>
<tr><td>Under Gravity (10 litre top container, 10 litre bottom container) (at 25 °C)</td><td>8 Lit./Hr.</td></tr>
<tr><td>Flow Direction</td><td colspan="2">Outside – in</td></tr>
<tr><td>Working temp</td><td colspan="2">5 to 35 degree Celsius</td></tr>
</table></td></tr>
</table>

	Claims : - • Bacteria - 6 Log, Virus – 2 log, Turbidity:- Nill • Life of Cartridge: 10,000 litres or 2 years (depends upon the intake quality of the water). • Membrane module to be washed every week. Please refer to Section A.3 of the VPA for more details
Choice of data or Measurement methods and procedures	The data applied is based on the manufacturer specifications for the filter technology used for the VPA
Purpose of data	Confirmation on technology specifications and performance level
Additional comment	NA

SDG 13.2.2

Data/parameter	SDWS 4: Regulatory framework for safe water supply
Unit	NA
Description	The VPA contributes to: • **National Water Policy (2012)[50]:** The policy states in paragraph 1.2 (v) that access to safe water for drinking still continues to be a problem and 1.3 (vi) that safe water for drinking and sanitation should be considered as pre-emptive needs followed by other needs. In addition, the importance of community sensitization and utilization of water as per local availability of waters before providing water through long distance transfer is highlighted (paragraph 3.6.). • **Jal Jeevan Mission JJM (2019-2024)[51]:**

[50] Government of India. Ministry of Water Resources. (2012) National Water Policy. Source: National Water Policy | Department of Water Resources, RD & GR | GoI (jalshakti-dowr.gov.in)
chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://nwm.gov.in/sites/default/files/national%20water%20policy%202012_0.pdf

[51] Government of India. Ministry of Jalshakti. Department of Drinking Water & Sanitation. (2019-2014) Jal Jeevan Mission. Source: https://jalshakti-ddws.gov.in/sites/default/files/JJM_Operational_Guidelines.pdf

	The vision of the JJM is that every household has drinking water supply in adequate quantity of prescribed quality on regular and long-term basis at affordable service delivery charges leading to improvement in living standards of rural communities. JJM further stresses the importance of awareness raising and involvement of stakeholders (paragraph 3.3 viii.) and highlights the contribution of technological interventions for removal of contaminants where water quality is an issue (paragraph 3.4 ii.). The VPA contributes to three core aspects mentioned in the National Water Policy (2012) and the Jal Jeevan Mission (2019-2024): i. Supply of rural communities with safe drinking water (point-of-use treatment) ii. Awareness raising on WASH aspects iii. Stakeholder participation in project activities
Source of data	National, sub-national and local authorities
Value(s) applied	The water quality of the treated water with Project Water Filter is in line with the national drinking water standard of India: 0 CFU E.Coli/100ml (IS 10500: 2012).
Choice of data or Measurement methods and procedures	Overview based on national policies and guidelines in the water sector in India.
Purpose of data	Confirmation that the project does not undermine or conflict with any national, sub-national and local regulations or guidelines for safe drinking water supply, operation and maintenance, including any tariff requirements.
Additional comment	-

SDG 13.2.2

Data/parameter	SDWS 5: Water sources in the project boundary
Unit	NA

<table>
<tr><td>Description</td><td>The water source in the project boundary and whether they are used for drinking water, and for all that are used for drinking water, classify them as improved and unimproved water source.
As per baseline study conducted from 28/02/2023 to 04/03/2023 of 270 households below data have been found that shows the percentage of improved /unimproved water usage.

<table><tr><td>Source</td><td>Values</td><td>Percentage</td><td>Improved/ unimproved</td></tr><tr><td>Unprotected well/ Unprotected Spring/ Surface water</td><td>254</td><td>94.07%</td><td>Unimproved</td></tr><tr><td>Borehole or tubewell and Piped water</td><td>16</td><td>5.93%</td><td>Improved</td></tr></table></td></tr>
<tr><td>Source of data</td><td>Households baseline survey</td></tr>
<tr><td>Value(s) applied</td><td>Unprotected well, Unprotected Spring, surface water and handpump</td></tr>
<tr><td>Choice of data or Measurement methods and procedures</td><td>Multiple options are included in an open-ended questionnaire to assess the water sources within the project boundary in line with the methodology guidelines. Data will then be analyzed in excel spreadsheet to determine the percentage rates.</td></tr>
<tr><td>Purpose of data</td><td>Analysis of the baseline water sources</td></tr>
<tr><td>Additional comment</td><td>This has been undertaken at the start of the crediting period and shall be updated in case project boundary is getting revised/expanded to new areas through a project design change approval.</td></tr>
</table>

b. Related to emission reductions
SDG 13.2.2

Data/parameter	SDWS 6: Stove technologies used in the project boundary
Unit	NA
Description	The stove type/technology used in premises in the geographical area of the project is mainly, Three-stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system
Source of data	Baseline survey
Value(s) applied	The CME conducts baseline surveys to assess the different stove technologies used for cooking and boiling

water by households within the geographical area of the VPA.
The survey results indicate that all surveyed households are using firewood as primary cooking fuel. CME cross-verified this finding with the latest national data, specifically the CEEW report[52] released in 2021.

According to the CEEW report, LPG penetration in rural areas of Madhya Pradesh is 54%. However, In Madhya Pradesh, due to high LPG refill costs, easy access to free biomass, limited LPG distributors, and the fact that the targeted households belong to the BPL (Below Poverty Line) category, the survey result in the CEEW report identified that in Madhya Pradesh, 89% of rural households with LPG connection consider LPG too expensive to meet their cooking needs. Based on this, the estimated percentage of households using LPG as the primary cooking fuel is:

x_f for LPG = (100%−89%) × 54% = **5.94%**

x_f for wood = (100%−5.94%) = **94.06%**

Considering values from CEEW report is more conservative, hence, CEEW value has been considered.

This approach ensures that the baseline scenario is robustly demonstrated, incorporating both primary survey data and relevant national-level insights.

The following categories of stove types are considered for ex ante estimation:

- 94.06% Three-stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system
- 0% other conventional systems using woody biomass

[52] https://www.ceew.in/sites/default/files/ires-report-on-state-of-clean-cooking-energy-access-in-india.pdf

	• 0% improved cookstoves (≥ 20% thermal efficiency) • 5.94% fossil fuel combusting systems
Choice of data or Measurement methods and procedures	Baseline study for classification and clustering (if applicable) of baseline stove types. Cross check was done using studies by CEEW. Details are provided in section B.4.
Purpose of data	Assessment of baseline scenario
Additional comment	If the project instances are implemented in different geographical locations, then the proportion of different stove types will be defined for each location, where relevant.

SDG 13.2.2

Data/parameter	SDWS 7: Expected technical life of project technology
Unit	years
Description	The expected technical life of an individual project technology is defined in section A.3 of the VPA-DD. The details include both technology/device life and filter life as it is replaceable.
Source of data	Manufacturer specifications:
Value(s) applied	Technology/device life: 15 years[53] Membrane life: 10,000 litres
Choice of data or Measurement methods and procedures	Manufacturer specifications
Purpose of data	Assessment of technical life against crediting period and (total crediting period ≥ expected technical life) inclusion of appropriate replacement mechanism as part of the project design.
Additional comment	NA

SDG 3.9.1, SDG 12.2.2 ,SDG 13.2.2, SDG 15.2.1

Data/parameter	SDWS 8: x_f
Unit	Percentage of fuel f use in target population

[53] As specified by the manufacturer, the product life is 15 years but the product's life may exceed 15 years if maintained properly.

Description	The proportion of each different cooking fuel f used in the project boundary by end-users: - % among the target population if single fuel is used for water boiling.
Source of data	Baseline survey /Official Government publication or statistics. CEEW report[54]
Value(s) applied	**Fuel Type** / x_f Traditional Stove - Firewood / 94.06% LPG / 5.94%
Choice of data or Measurement methods and procedures	Baseline survey
Purpose of data	To demonstrate contribution to SDG 3, SDG12, SDG13 & SDG15
Additional comment	Baseline survey was conducted following the requirements outlined in section B.4. Cross check was done using studies by **CEEW report released in 2021**. Details are provided in section B.4

SDG 13.2.2

Data/parameter	SDWS 9: $EF_{b,f,CO2}$
Unit	tCO_2/TJ
Description	CO_2e emission factor from use of fuels in baseline scenario
Source of data	IPCC defaults[55]
Value(s) applied	Wood: 112 tCO_2/TJ[56] LPG: 63.1 tCO_2/TJ[57]
Choice of data or Measurement methods and procedures	Default defined in "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0.
Purpose of data	To demonstrate contribution to SDG 13.
Additional comment	NA

[54] https://www.ceew.in/sites/default/files/ires-report-on-state-of-clean-cooking-energy-access-in-india.pdf
[55] https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf
[56] https://globalgoals.goldstandard.org/standards/429_V1.0_EE_SWS_Emission-reductions-from-Safe-Drinking-Water-Supply.pdf
[57] https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf

SDG 13.2.2

Data/parameter	SDWS 10: $EF_{b,f,nonCO2}$
Unit	tCO_2/TJ
Description	Non-CO2 emission factor from use of fuels, in case the baseline fuel is biomass or charcoal
Source of data	IPCC defaults[58]
Value(s) applied	AR5 GWP Wood: 9.46 tCO_2e/TJ LPG: 0 tCO_2e/TJ
Choice of data or Measurement methods and procedures	Default defined in "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0.
Purpose of data	To demonstrate contribution to SDG13.
Additional comment	NA

SDG 13.2.2

Data/parameter	SDWS 11: η_{wb}
Unit	Percentage
Description	Weighted average efficiency of the baseline water boiling devices. Calculate the weighted average of the water boiling efficiency in the project boundary using the proportion of different stove types used and the stove efficiencies.
Source of data	As per methodology Emission Reductions from Safe drinking water supply version 1.0, the following default values may be applied to calculate the weighted average of the water boiling efficiency in the project boundary: - Three-stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system, that is without either a grate or a chimney: default efficiency 10%. - LPG – Literature review

[58] IPCC default value given in the methodolgy https://globalgoals.goldstandard.org/standards/429_V1.0_EE_SWS_Emission-reductions-from-Safe-Drinking-Water-Supply.pdf

Value(s) applied	Three-stone fired - 10% Gas Stove – 57%[59]
Choice of data or Measurement methods and proced	Default defined in "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0.
	To demonstrate contribution to SDG13
Additional comment	NA

SDG 1.4.1, SDG 6.1.1, SDG 13.2.2

Data/parameter	SDWS 12: C_b
Unit	Percentage
Description	Proportion of project end-users who in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling.
Source of data	Calculation of baseline scenario
Value(s) applied	2.22%
Choice of data or Measurement methods and procedures	Baseline survey As per baseline survey conducted by the CME, Improved sources (Borehole or tubewell and Piped water (borehole or tubewell)) are 5.93% (5.56%+0.37%)). 31.25% of households improved sources boils their water which means 31.25% out of 5.93% of improved sources are actually safe for drinking. Additionally, 0.37% households used some other treatment method (not boiling) to make water safe for drinking.
Purpose of data	Assessment of baseline scenario, Contribution to SDG 1, SDG 6 and SDG 13
Additional comment	NA

SDG 13.2.2

Data/parameter	SDWS 13: q_i

[59] https://www.ceew.in/sites/default/files/CEEW-Roadmap-for-Access-to-Clean-Cooking-Energy-in-India-Report-31Oct19-min.pdf

Unit	Liters per hour
Description	Capacity of the household/institutional water treatment technology
Source of data	Manufacturer specifications
Value(s) applied	6
Choice of data or Measurement methods and procedures	Based on manufacturer specifications.
Purpose of data	• Assessment of water treatment technology capacity against default value of liters per person per day for premise type. • To demonstrate contribution to SDG13
Additional comment	NA

SDG 13.2.2

Data/parameter	SDWS 21: $f_{NRB,f,y}$
Unit	Percentage
Description	Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass or charcoal
Source of data	Determined by: - CDM TOOL30[60], Calculation of the fraction of non-renewable biomass
Value(s) applied	89.2
Choice of data or Measurement methods and procedures	Determined ex-ante CDM TOOL30, Calculation of the fraction of non-renewable biomass and fixed for a given crediting period as per "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0
Purpose of data	Assessment of emission factor in the baseline scenario and contribution to SDG 13

[60] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v4.0.pdf

Additional comment	Please refer section B.4 of VPA DD for further details.

SDG13.2.2

Data / Parameter	SDWS 24: QPW_{p}
Unit	L/person/day
Description	Volume of drinking water per person per day for premises type p
Source of data	Default value
Value(s) applied	4
Measurement methods and procedures	Default value as per applied methodology.
Monitoring frequency	Not Applicable
QA/QC procedures	NA
Purpose of data	To calculate the contribution to SDG13
Additional comment	NA

SDG 13.2.2

Data / Parameter	SDWS 30: $t_{p,y}$
Unit	Hours per day
Description	Usage time of the project technology by premises type p in year y
Source of data	Default value of applied methodology
Value(s) applied	5
Measurement methods and procedures	Default of 5 hours
Monitoring frequency	Annual
QA/QC procedures	NA
Purpose of data	Contribution to SDG13
Additional comment	NA

B.6.1. Ex ante estimation of SDG Impact

The detailed ex-ante calculations of estimated SDG Impacts are provided in a separate excel calculation sheet.

SDG13

GHG Emission Reduction Calculation:

According to the applied methodology "Methodology for Emission reductions from safe drinking water supply", version 1.0[61] equation 3, the baseline emission calculated as follows:

$$BEy = EF_b \times (1 - C_b - X_{cleanboil,y}) \times Qy \times Mq, y$$

As per the equation 6 of the applied methodology, the quantity of safe drinking water provided by the project Qy is determined as follows:

For HWT technology:

$QPW_{hh,p,y}$= min $((qi \times tp,y \times DNp,y), (QPWp \times HNp,y))$

= min ((6 x 5 x 1), (4 x 5.36)) = min (30, 21.44) = 21.44 L/day

Value applied

Parameter	Description	Value	Unit
q_i	Capacity of the HWT or IWT individual project technology (L/h)	6	L/h
$t_{p,y}$	Usage time of the project technology by premises type p in year y (h/day)	5	h/day
$DN_{p,y}$	Average number of individual project technologies in each project premises type p in year y	1	Number of filter/ premises
$HN_{p,y}$	Number of individuals per premises type p (e.g. household, school) in year y	5.36	Number of person/ premises
QPW_p	Volume of drinking water per person per day for premises type p (L). Apply the default value or monitored value through water consumption field tests in the project scenario, capped at 4 L per person per day.	4	L/day

As per equation 2 of the applied methodology, the specific energy required to boil water using the baseline technology ($SE_{w,b,y}$) is determined as follows:

For Traditional Stove:

$SE_{w,b,y}$= 360.83/η_{wb}

= 360.83/10%

= 3,608.3 KJ/L

[61] https://globalgoals.goldstandard.org/standards/429_V1.0_EE_SWS_Emission-reductions-from-Safe-Drinking-Water-Supply.pdf

For LPG:

$SE_{w,b,y}$= 360.83/η_{wb}

= 360.83/57%

= 633.04 KJ/L

Value applied

Parameter	Description	Value	Unit
η_{wb} - TSF	Efficiency of the stoves for baseline water boiling (%). Weighted average of baseline stove types.	10	%
η_{wb} - LPG	Efficiency of the LPG	57	%

As per applied methodology equation 1, the baseline emission factor shall be calculated as follows:

$EF_b = SE_{w,b,y} \times \sum_f x_f \times \left(EF_{b,f,co2} \times f_{NRB,f,y} + EF_{b,f,nonco2}\right) \div 10^9$

= 3,608.3 x (94.06% x (112 x 89.2% + 9.46)) ÷ 10^9 + 633.04 x (5.94% x (63.1 + 0)) ÷ 10^9

= 3,608.3 x (94.06% x (99.904 + 9.46)) ÷ 10^9 + 633.04 x (5.94% x (63.1)) ÷ 10^9

= 3,608.3 x (94.06% x 109.364) ÷ 10^9 + 633.04 x (5.94% x 63.1) ÷ 10^9

= 37.3 x 10^{-5} tCO_2e/L

Value applied:

Parameter	Description	Value	Unit
$SE_{w,b,y}$ Traditional stove with wood	Specific energy required to boil water	3,608.3	kJ/L
$SE_{w,b,y}$ LPG	Specific energy required to boil water	633.04	kJ/L
xf - Traditional Stove Users with wood	Proportion of fuel *f* used in the baseline (fraction determined based on an energy basis)	94.06	%

xf - LPG	Proportion of fuel *f* used in the baseline (fraction determined based on an energy basis)	5.94	%
$EF_{b,f,CO2}$ - Wood	CO_2 emission factor from use of fuel *f*	112	tCO_2/TJ
$EF_{b,f,CO2}$ - LPG	CO_2 emission factor from use of fuel *f*	63.1	tCO_2/TJ
$EF_{b,f,nonCO2}$	Non-CO_2 emission factor arising from use of fuel *f*, when the baseline fuel *f* is biomass or charcoal. This parameter is omitted when *f* is a fossil fuel.	9.46	tCO_2/TJ
$f_{NRB,f,y}$	Fractional non-renewability status of woody biomass fuel during year *y* (fraction). For biomass, it is the fraction of woody biomass that can be established as non-renewable. This parameter is omitted when *f* is a fossil fuel.	89.2	%

For HWT technology:

As per equation 6 of the applied methodology, Quantity of safe drinking water provided by the project Qy is determined as follows:

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

= 2,010 x 100% x 20 x 365
= 146 x 10^5 Liters

Value applied:

Parameter	Description	Value	Unit
$N_{p,y}$	Number of premises type *p* with at least one project technology in year *y*	2,010	Number
$U_{p,y}$	Usage rate of the project technology by premises type *p* during year *y*	100	%
$QPW_{hh,p,y}$	Volume of drinking water per premises *p* per day in year *y*	21.44	L/day
$DP_{p,y}$	Days the project technology is present for end-users in the premises *p* in year *y*	365	Days

$BE_y = EF_b \times (1 - C_b - X_{cleanboil,}) \times Q_y \times M_{q,}$
= 37.3 x 10^{-5} x (1 – 2.22% – 0%) x 141.15 x 10^5 x 1
≈5,745 tCO_2e (rounded down)

Also, Emission Reduction per filter

= 5,745/2,010 tCO_2e/year
=2.858 tCO_2e/year

Value applied:

Parameter	Description	Value	Unit
EF_b	Emission factor for the use of fuel to obtain safe water in the baseline	37.3 x 10^{-5}	tCO_2e/L
C_b	Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling	2.22	%
$X_{cleanboil,y}$	Proportion of project end-users that boil safe water in the project year *y*	0	%
Q_y	Quantity of safe drinking water provided by the project in year *y*	141.15 x 10^5	L
$M_{q,y}$	Modifier for the water quality in year *y*	1	(fraction)

B.6.2. Summary of ex ante estimates of each SDG outcome

SDG 13 (tCO_2e/year)

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	5,745	0	5,745
Year 2	5,745	0	5,745
Year 2	5,745	0	5,745
Year 4	5,745	0	5,745
Year 5	5,745	0	5,745
Total	28,725	0	28,725
Total number of crediting years	5		
Annual average over the crediting period	5,745	0	5,745

Indicator 1.4.1: Proportion of population living in households with access to basic services (number of HWT units distributed)

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0	2,010	2,010
Year 2	0	2,010	2,010

Year 2	0	2,010	2,010
Year 4	0	2,010	2,010
Year 5	0	2,010	2,010
Total	0	2,010[62]	2,010
Total number of crediting years	5		
Annual average over the crediting period	0	2,010	2,010

Indicator 3.9.1: Mortality rate attributed to household and ambient air pollution
Project-specific Indicator: % users reporting reduction in incidences of waterborne diseases such as skin rashes, diarrhea, foot sores, parasites, eye problems and other waterborne diseases)

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0	100%	100%
Year 2	0	100%	100%
Year 2	0	100%	100%
Year 4	0	100%	100%
Year 5	0	100%	100%
Total	0	100%	100%
Total number of crediting years	5		
Annual average over the crediting period	0	100%	100%

Indicator 4.3.1: Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex (number of trainings conducted)

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT

[62] Averaged number of water filter unit

Year 1	0	1	1
Year 2	0	1	1
Year 2	0	1	1
Year 4	0	1	1
Year 5	0	1	1
Total	0	1	1
Total number of crediting years	5		
Annual average over the crediting period	0	1	1

Indicator 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age, and location
Project specific indicator:% Users reporting a time-saving in fuel collection after shifting to Econeer HWT units.

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0%	100%	100%
Year 2	0%	100%	100%
Year 2	0%	100%	100%
Year 4	0%	100%	100%
Year 5	0%	100%	100%
Total			
Total number of crediting years	5		
Annual average over the crediting period	0%	100%	100%

Indicator 6.1.1: Proportion of population using safely managed drinking water services

Project specific Indicator: number of persons having access the water filter

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0	10,774	10,774
Year 2	0	10,774	10,774
Year 2	0	10,774	10,774

Year 4	0	10,774	10,774
Year 5	0	10,774	10,774
Total	0	10,774	10,774
Total number of crediting years	5		
Annual average over the crediting period	0	10,774	10,774

Indicator 7.1.2: Proportion of population with primary reliance on clean fuels and technology
Project specific Indicator: Number of unique households that were provided access to clean water purification technology i.e. Econeer water filter).

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0	2,010	2,010
Year 2	0	2,010	2,010
Year 2	0	2,010	2,010
Year 4	0	2,010	2,010
Year 5	0	2,010	2,010
Total	0	2,010	2,010
Total number of crediting years	5		
Annual average over the crediting period	0	2,010	2,010

Indicator 8.5.1 : Average hourly earnings of employees, by sex, age, occupation and persons with disabilities
Project specific Indicator: Total no of jobs created (in distribution, Monitoring & Evaluation

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0	4	4
Year 2	0	4	4
Year 2	0	4	4
Year 4	0	4	4
Year 5	0	4	4

Total	0	20	20
Total number of crediting years	5		
Annual average over the crediting period	0	4	4

Indicator 12.2.2 : Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP
Project-specific Indicator: Reduction in consumption of renewable biomass.

The Reduction in consumption of renewable biomass is calculated by:
$R_{rb,y} = [Qy*(360.83/\eta_{wb})*X_{f,wood}/15.6*10^3] * (1-f_{NRB,f,y})$

The details of the calculation as follows:

Parameters	Values	UOM	Reference
NCV of wood per tonnes	15,600.00	KJ/KG	As per IPCC
Energy required for boil 1 Litre of water	360.83	KJ/l	As per applied methodology
Efficiency of used cookstove in the baseline scenario	10.00%	%	As per baseline survey data (used default value as per applied meth)
Output Energy	5,339,660,559.66	KJ	Calculated value
Input	53,396,605,596.58	KJ	Calculated value
Quantity of safe drinking water provided by the project Qy	15,729,456.00	Litres	Calculated value
Wood required for boiling Qy amount of water	3,422,859.333	KG	Calculated value
Wood required for boiling Qy amount of water	3,422.859333	Tonnes	Calculated value
Fnrb value	0.892	-	Calculated value (Refer fNRB calculation sheet)
Tonnes of renewable biomass	369	Tonnes	Calculated value

$R_{rb,y} = [Qy*(360.83/ \eta_{wb})*Xf_{wood}/15.6*10^3] * (1-f_{NRB,f,y})$
= 369 Tonnes of renewable biomass

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0	369	369
Year 2	0	369	369
Year 2	0	369	369
Year 4	0	369	369
Year 5	0	369	369
Total	0	1845	1845
Total number of crediting years	5		
Annual average over the crediting period	0	369	369

Indicator 15.2.1: Progress towards sustainable forest management
Project Specific indicator: Reduction in consumption of non-renewable biomass

The Reduction in consumption of non-renewable biomass is calculated by:

$R_{nrb,y} = [Qy*(360.83/\eta_{wb})/15.6*10^3] * f_{NRB,f,y}$

The details of the calculation as follows:

Parameters	**Values**	**UOM**	**Reference**
NCV of wood per tonnes	15,600.00	KJ/KG	As per IPCC
Energy required for boil 1 Litre of water	360.83	KJ/l	As per applied methodology
Efficiency of used cookstove in the baseline scenario	10.00%	%	As per baseline survey data (used default value as per applied meth)
Output Energy	5,339,660,559.66	KJ	Calculated value
Input	53,396,605,596.58	KJ	Calculated value

Quantity of safe drinking water provided by the project Qy	15,729,456.00	Litres	Calculated value
Wood required for boiling Qy amount of water	3,422,859.333	KG	Calculated value
Wood required for boiling Qy amount of water	3,422.859333	Tonnes	Calculated value
Fnrb value	0.892	-	Calculated value (Refer fNRB calculation sheet)
Tonnes of non-renewable biomass	3,053	Tonnes	Calculated value

$R_{nrb,y}$ = [Qy*(360.83/nwb)*Xf_{wood}/NCV] * $f_{NRB,f,y}$

= 3,053 Tonnes of non-renewable biomass

YEAR	BASELINE ESTIMATE	PROJECT ESTIMATE	NET BENEFIT
Year 1	0	3,053	3,053
Year 2	0	3,053	3,053
Year 2	0	3,053	3,053
Year 4	0	3,053	3,053
Year 5	0	3,053	3,053
Total	0	15,265	15,265
Total number of crediting years	5		
Annual average over the crediting period	0	3,053	3,053

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

SDG 6.1.1, SDG 13.2.2

Data / Parameter	SDWS 18: $M_{q,y}$
Unit	Fraction

Description	Ongoing water quality indicated as the fraction of the samples that pass microbial quality standard requirements specified in relevant microbial quality standard for drinking water of the host country. In case a national standard is not available, the water quality shall comply with WHO Guideline values for verification of microbial quality i.e., all water directly intended for drinking must not have detectable E.Coli in any 100 ml sample i.e., less than 1 Colony Forming Unit (CFU) of E.Coli /100 ml.
Source of data	Testing of the water that exits the treatment technology.
Value(s) applied	1
Measurement methods and procedures	• The national drinking water standard of India (0 CFU E.Coli/100ml) will be used as a reference (IS 10500: 2012[63]). • The water quality test applies the bacterial quality standard <1 cfu E.coli/100ml, and the sampling determines the proportion of pass and fail results. • The sampling results shall satisfy at minimum the 90/10 rule, i.e. the endpoints of the 90% confidence interval lie within +/- 10% of the estimated proportion in relative units. For example, the interval around a proportion of 85% tests passed, would have to lie between 76.5% and 93.5%. A minimum sample size of 30 must be selected. The water sample is being taken from the outlet of the project water purifiers and CME entrust a third-party testing agency-a microbiology laboratory affiliated with the "National Accreditation Board for Testing and Calibration Laboratories" (NABL) to test the water quality. From the laboratory test report, the monitoring parameters and monitoring methods are shown in the following table:

SL No	Parameters	Test Method No.

[63] Bureau of Indian Standards (2012) Indian Standard. Drinking Water – Specification. IS 10500 : 2012. Source: https://law.resource.org/pub/in/bis/S06/is.10500.2012.pdf

	1. E. Coli — IS 15185:2016 RA 2021
Monitoring frequency	Annual sampling, and the first round of testing will be conducted at least after six months from the start date.
QA/QC procedures	Laboratories used for water quality testing must be approved by local health authorities and/or have quality accreditation.
Purpose of data	Contribution to SDG 6 and SDG 13
Additional comment	If the proportion of samples not meeting Safe Drinking Water Quality Standards exceeds a threshold, no emission reductions can be claimed for the corresponding monitoring period. Thresholds: - Project or VPA year 1: 20% - Project or VPA year 2: 15% - Project or VPA year 3 or above: 10% When the crediting period is renewed, the year number count continues, i.e. the second crediting period would encompass year 6, year 7, year 8, etc. Additionally, when the threshold is exceeded, the project shall provide an explanation for why this occurred and provide a remediation plan.

SDG 1.4.1, 3.9.1, 4.3.1, 5.4.1, 6.1.1, 7.1.2, 8.5.1, 12.2. and 15.2.1

Data / Parameter	SDWS 19: SDG 1
Unit	No of water filter
Description	Number of Econeer water filter distributed/operational under the project as an indicator of providing access to basic services in the households. Contribute to providing access to basic services (clean cooking technology considered as basic service under access to modern energy) to the poor and vulnerable communities of India.
Source of data	Econeer water filter distribution/sales record
Value(s) applied	2,010
Measurement methods and procedures	The data has been obtained from the Econeer water filter sales/distribution record.
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 1

Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 3
Unit	Percent
Description	Percent of Household reporting reduction in incidences of waterborne diseases such as skin rashes, diarrhea, foot sores, parasites, eye problems and other waterborne diseases.
Source of data	Monitoring Surveys data to record % users reporting a reduction in smoke/PM after they start using the water filter.
Value(s) applied	100 (estimated)
Measurement methods and procedures	The value has been established based on Sampling baseline survey across a randomly selected number used third party software of beneficiaries conducted as per details mentioned in Section D.4 of the MR. The result has been applied to all the beneficiaries of the VPA
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 3
Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 4
Unit	training/annum
Description	Contribute to increasing vocational and relevant skills of local individuals by providing non-formal education and training on issues related to climate change, with specific skill building in operations and surveying activities related to water filter distribution and its monitoring under GS.
Source of data	Number of awareness programs/training in a year.
Value(s) applied	1
Measurement methods and procedures	Number of Awareness program/training for using project scenario
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 4

Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 5
Unit	Percentage
Description	% Households reporting time saving due to reduction in time saving to collect fuel wood/ water boiling time
Source of data	Baseline/Monitoring survey data for the % users reporting time-saving due to reduction in collection of fuel wood/ water boiling time in the project
Value(s) applied	100 (ex-ante estimation)
Measurement methods and procedures	The measurement of the parameter will be based on qualitative information collected during Monitoring surveys. The end users will be asked whether they spent less time collecting wood fuel for the project HWT units and/or required less time for boiling the water in order to make it suitable for drinking purpose after usage of Econeer (HWT units) as compared to the baseline scenario. The result is extrapolated on all HWT users for this project.
Monitoring frequency	Annual
QA/QC procedures	The data will be analyzed in the monitoring report and raw data from the baseline/ monitoring survey will be made available.
Purpose of data	To monitor SDG-5 contribution
Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 6
Unit	No of person
Description	Monitor the number of Water Filter distributed /installed /operational under the VPA as an indicator of providing basic service access to number of persons. Further the project developer has included below parameters to ensure the compliance towards SDG 6 i.e. (i) Level of service- The water filter being distributed in the VPA are of safely managed household units as pure drinking water is

	available whenever needed and free from any contamination. (ii) Project contributions: The water being discharged from distributed water filters is easily accessible, available 24 hours in a day and on quality also it is free from any kind of contaminations.
Source of data	Monitoring survey report
Value(s) applied	10,774
Measurement methods and procedures	The measurement of the parameter will be based on quantitative information collected during Monitoring surveys. The total no of population has access to improved source of water= Total no. of water filter operational x Average no. of members in household.
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 6 Indicator
Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 7
Unit	Number of water filter
Description	Number of Econeer water filter operational under the project as an indicator of providing access to basic services in the households. Contribute to providing access to basic services (clean water purification technology considered as basic service under access to modern energy) to the poor and vulnerable communities of India.
Source of data	Monitoring survey report
Value(s) applied	2,010
Measurement methods and procedures	The measurement of the parameter will be based on quantitative information collected during Monitoring surveys.
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 7
Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 8
Unit	Number of person
Description	Number of employments generated due to VPA implementation
Source of data	Recording the number of employees (male/female) in the project under administrative, distribution, and management positions
Value(s) applied	4
Measurement methods and procedures	NA
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 8
Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 12
Unit	Tonnes
Description	Tonnes of renewable biomass saved
Source of data	Calculated using the below formula (Refer section 6.1 for details) $[Qy*(360.83/\eta_{wb})*X_{f,wood}/15.6*10^3]*(1-f_{NRB,f,y})$
Value(s) applied	369.67
Measurement methods and procedures	Calculated
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 12
Additional comment	The data will be kept for two years after the crediting period or from last issuance.

Data / Parameter	SDWS 19: SDG 15
Unit	Tonnes
Description	Tonnes of non-renewable biomass saved

Source of data	Calculated using the below formula (Refer section 6.1 for details) $[Qy*(360.83/\eta_{wb})*X_{f,wood}/15.6*10^3\ ]*f_{NRB,f,y}$
Value(s) applied	3,053.19
Measurement methods and procedures	Calculated
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	Monitoring of SDG 15
Additional comment	The data will be kept for two years after the crediting period or from last issuance.

SDG 6.1.1

Data / Parameter	SDWS 20: Water hygiene education campaigns
Unit	NA
Description	Hygiene campaigns carried out among project safe water end users.
Source of data	Report of annual hygiene campaigns results
Value(s) applied	1
Measurement methods and procedures	The impacts of the hygiene campaign shall be assessed using the WHO/UNICEF Joint Monitoring Programme Core questions[64] for drinking water and hygiene to determine the fraction of the households and institutions where Safe water and Hygiene practices are found to fulfill "safely managed" or "basic" requirements. In-person or telephone or by messaging (e.g. text, app) based survey shall be conduct covering all the JMP core questions for drinking water and core questions for hygiene.
Monitoring frequency	Annually
QA/QC procedures	The fraction of the households where Safe water and Hygiene practices are found to fulfill "safely managed" or "basic" requirements is expected to increase over time as a result of the hygiene campaigns.
Purpose of data	NA

64 https://washdata.org/monitoring/methods/core-questions

Additional comment	NA

b. Related to emission reductions

SDG 13.2.2

Data / Parameter	SDWS 22: $X_{cleanboil,y}$
Unit	Percentage
Description	Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology in year y. Percentage includes proportion of end-users that switched back to boiling water and proportion of end users that boil water after treatment with the project technology.
Source of data	Project Survey
Value(s) applied	0 (assumption for ex-ante calculation)
Measurement methods and procedures	This survey may be performed in person, by telephone, by messaging (e.g. text, app), appropriate to the context.
Monitoring frequency	Annually
QA/QC procedures	NA
Purpose of data	Contribution to SDG13
Additional comment	NA

SDG 13.2.2

Data / Parameter	SDWS 25: $HN_{p,y}$
Unit	Number
Description	Number of individuals per premises type p in the project boundary in year y
Source of data	Project survey; official government publications or statistics
Value(s) applied	5.36 (assumption for ex-ante calculation as per baseline survey)
Measurement methods and procedures	Project survey will be done following the section 4.2 General requirements for sampling of the methodology "Emission reductions from Safe Drinking Water Supply", v.1.0
Monitoring frequency	Annual
QA/QC procedures	The value applied will be cross-checked against at least one other source on the list. For cross-check purposes,

	sources applied may be up to 5 years old. Further, cross-check with older sources will be used provided they provide conservative results.
Purpose of data	To calculate the contribution to SDG13
Additional comment	NA

SDG 1.4.1, SDG 6.1.1, SDG 13.2.2

Data / Parameter	SDWS 28: $N_{p,y}$
Unit	Number
Description	Accumulated number of premises type p with at least one individual project technology in year y
Source of data	Distribution records
Value(s) applied	2,010
Measurement methods and procedures	Will be reported for each monitoring period. Distribution records with unique identifier of project technology and household.
Monitoring frequency	Annually
QA/QC procedures	Distribution records will include: i. Date of sale/distribution ii. Geographic area of sale iii. Model/type of project technology sold iv. Quantity of project technologies sold Name and telephone number, and address (if available) or other traceable indicator of premises identity and location for all end users.
Purpose of data	Contribution to SDG1, SDSG6, SDG13
Additional comment	NA

SDG 6.1.1, SDG 13.2.2

Data / Parameter	SDWS 29: $U_{p,y}$
Unit	Percentage
Description	Usage rate of the project technology by premises type p during year y
Source of data	Annex 1: Usage Surveys Guidelines – HWT Technologies in the applied methodology: METHODOLOGY FOR EMISSION REDUCTIONS FROM SAFE DRINKING WATER SUPPLY (version 1.0)
Value(s) applied	100

Measurement methods and procedures	In-person survey of project households covering all topics outlined in Annex - 1. Households that show at least once-in-two-days use may be counted as users. The resulting fraction is multiplied by 100% to get $Up_{,y}$ Where project technologies of different ages are being credited, the sample shall be representative of the distribution of project technology ages. The minimum sample size for HWT - for individual technology age-group shall be minimum 30 household.
Monitoring frequency	Annually
QA/QC procedures	NA
Purpose of data	Contribution to SDG 6 and SDG 13
Additional comment	The usage survey provides a single usage parameter that is representative for project technologies in the total sales record.

SDG 13.2.2

Data / Parameter	SDWS 31: $DP_{p,y}$
Unit	Days
Description	Average days the project technology is present for end-users in the premises p in year y
Source of data	Sales or distribution records.
Value(s) applied	365 (assumption for ex-ante calculation)
Measurement methods and procedures	Based on the sales or distribution records of "Date of sale/distribution" and ex-ante parameter "Expected technical life of project technology," for each project device how many days of the 365 days of the year it was in the premises and within its technical life will be determined. Then the average for all the project technology will be calculate by premises type p to obtain this parameter.
Monitoring frequency	Annually
QA/QC procedures	Not applicable
Purpose of data	Contribution to SDG 13
Additional comment	NA

SDG 13.2.2

Data / Parameter	SDWS 32: $DN_{p,y}$

Unit	Number
Description	Average number of individual project technologies in each project premises type p in year y
Source of data	Sales or distribution records.
Value(s) applied	1 (assumption for ex-ante calculation)
Measurement methods and procedures	Based on the sales or distribution records of "Quantity of project technologies sold" and identifying information of buyer/recipient, calculate the average number of project devices per premises.
Monitoring frequency	Every two years
QA/QC procedures	NA
Purpose of data	Contribution to SDG13
Additional comment	NA

B.7.2. Sampling plan

The VPA will follow the guidelines for sampling and surveying outlined in the methodology. The latest version of CDM tools and/or guidelines referenced in the methodology shall be used: CDM Guidelines "Guidelines for sampling and surveys for CDM project activities and programmes of activities", Version 04.0[65].

Surveys:

The surveys are being conducted using representative and random sampling in accordance with the GS minimum sample size guidelines:

Group size	Minimum sample size
<300	30 or population size, whichever is smaller
300 to 1,000	10% of group size
>1000	100

Minimum 90% confidence interval and a 10% margin of error requirement shall be achieved for the sampled parameters.

[65] https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20151023152925068/Meth_GC48_%28ver04.0%29.pdf

Usage Survey – HWT Technologies:

- The Usage Survey guidelines for Household Water Treatment Technologies in Annex 1 of the methodology "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0 has been be followed to determine the water usage rate.

Water Quality Tests:

- The Water Quality Monitoring Guidelines for the VPA will be followed whenever applicable as per the methodology "Methodology for Emission Reductions from Safe Drinking Water Supply" v1.0. The water quality testing will be performed based on parameter SDWS18 requirements.
- The sample size is following 90/10 precision rule and a minimum sample size of 100 must be selected for this VPA.
- The water sample is taken where the water exits the treatment technology.
- Annual sampling; first round of testing shall be conducted at least after six months from the start date

B.7.3. Other elements of monitoring plan

Unique Identification:

Each of the water filters will carry a unique number/QR code (serial number). The number will be documented in the household database together with key information about the household.

The project proponent will assess all monitoring data and produces a monitoring report to verify the corresponding to the preceding monitoring period. This report will present the data relating to the emission reductions generated by those water filters during the monitoring period.

The purpose of the monitoring plan is to ensure successful monitoring of the emission reductions of the proposed project during its crediting period. The overall monitoring will be managed by the project implementer EKI Energy Services Ltd. (EKIESL).
Activities and performance related to emissions reduction are monitored by EKIESL. The PP proposed the following roles and responsibilities for data monitoring, collection, data

archiving for the real case VPA under consideration. The team comprises follows the below participators.

- The monitoring activities involve data collection during distribution as well as usage information post-distribution. The data collected during distribution also involves information about the water filters, the end user, and the location to enable one to uniquely identify each HWT unit and avoid double counting.
- Repair and Maintenance - The team members of EKIESL will visit the site on regular basis, to ensure that the project water filters are working in good condition. In case any Water filter is found not in proper working condition, the survey team will update the maintenance department and the filter will be repaired/replaced on an immediate basis. In case a user faces any difficulty with the filter, he/she will inform the village head or the EKIESL (CME) staff and immediate action will be taken to rectify the issue to ensure the uninterrupted functioning of the Water filters.
- After the distribution of the Water Filters, the monitoring team selects the samples from the distribution will record on a random basis and visits the premises where these Water filters are located to monitor key parameters pertinent to ER Calculation. The individuals carrying out the monitoring activities shall follow the instructions provided during training.

  Data collected and monitored will be stored electronically in a secure and retrievable manner for at least two years after the end of the project crediting period.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1. Start date of VPA

11/05/2023 (start date of distribution of first Econeer water filter of this VPA). This is a regular real case VPA as stakeholder consultation has been done before the project start date.

C.1.2. Expected operational lifetime of VPA

15 Years 00 Months[66]

[66] According to the technical specification manual, the technical life of the water purifier is 15 years. The life of the cartridge will be vary between 1.5 – 2 years which will be replace as per requirements.

C.2. Crediting period of project

C.2.1. Start date of crediting period

11/05/2023

C.2.2. Total length of crediting period

5 years 00 months for CP1 (11/05/2023 – 10/05/2028). The crediting period may be renewed twice in line with the Community Services Activity Requirements.

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1. Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in Appendix 1, ongoing monitoring is summarised below.

PRINCIPLES	MITIGATION MEASURES ADDED TO THE MONITORING PLAN
Principle 1. Human Rights	Not applicable
Principle 2. Gender Equality	Not applicable
Principle 3. Community Health, Safety and Working Condition	Not applicable
Principle 4.1 Sites of Cultural and Historical Heritage	Not applicable
Principal 4.2 Forced Eviction and Displacement	Not applicable
Principle 4.3 Land Tenure	Not applicable
Principle 4.4 Indigenous people	Not applicable
Principle 5. Corruption	Not applicable
Principle 6.1 Labour Rights	Not applicable
Principle 6.2 Economic Consequences	Not applicable
Principle 7.1 Emissions	Not applicable

Principle 7.2 Energy Supply	Not applicable
Principle 8.1 Impact on Natural Water Patterns / Flows	Not applicable
Principle 8.2 Erosion and/or Water Body Instability	Not applicable
Principle 9.1 Landscape Modification and Soil	Not applicable
Principle 9.2 Vulnerability to Natural Disaster	Not applicable
Principle 9.3 Genetic Resources	Not applicable
Principle 9.4 Release of pollutants	Not applicable
Principle 9.5 Hazardous and Non-hazardous Waste	Not applicable
Principle 9.6 Pesticides & Fertilizers	Not applicable
Principle 9.7 Harvesting of forests	Not applicable
Principle 9.8 food	Not applicable
Principle 9.9 Animal husbandry	Not applicable
Principle 9.10 High Conservation Value Areas and Critical Habitats	Not applicable
Principle 9.11 Endangered Species	Not applicable

D.2. Assessment that project complies with GS4GG Gender Sensitive requirements

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The Project takes into account gender roles and the abilities of women and men to participate in the decision/designs of the project activities. For example, the stakeholder consultation made in the project design phase will include both women and men participating in the consultation meeting. Moreover, for example, future public awareness sessions

	and training for the construction of efficient water filters will be planned and organized in a way to avoid any discrimination against women or other marginalized groups. Women's participation will be essential for guaranteeing success in the dissemination of water filters. In the overwhelming majority of households in India, fuel collection activities and boiling of water are handled by women. The water filter will replace water boiling activity and thus a reduction of fuel wood consumption will significantly reduce women's workload related to the collection of fuel. It can be further expected that sexual harassment and violence happening during fuel collection may be reduced. Also, burn injuries from boiling water can be avoided. Hence, largely women will benefit from the VPA.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	The government has multiple policy initiatives to enhance the supply and/or demand for safe drinking water. As safe drinking water is a basic need and has significant impacts on health outcomes and livelihoods, particularly for women.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	There is no expert required to address the Gender Safeguarding Principles & Requirements assessment. The project team has experience in the implementation of interventions targeting and empowering women, addressing gender and role issues. The project shall ensure equal participation of people irrespective of age, gender, sex, religion and/or socio-economic background.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	No expert is required to assist with gender issues at the stakeholder consultation as gender has been adequately assessed in the Safeguarding Principles Assessment.

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

The below is a summary of the 2 step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

E.1. Summary of stakeholder mitigation measures

As part of the project, a physical Stakeholder consultation meeting was conducted on the 10/05/2023 in Panchayat Bhawan-Khamera village and Primary School-Tanter village, Dindori, Madhya Pradesh for the project region, in line with GS4GG Requirements and Guidelines.

The CME invited local stakeholders to participate in the stakeholder consultation process of the project through public notice on 10/04/2023 and emailed on 04/05/2023 as well. In order to facilitate the invitees to understand the purpose of the meeting and relevant information of the project, the CME briefly introduced the key information of the project during the invitation.

The CME has invited local people, the local NGO's working in the region and Gold Standard NGOs to participate in the Global Stakeholder feedback round through email and invited more end-users to participate in the physical meeting through the public notice as per as per para 3.3 of the GS -Stakeholder consultation and engagement requirements v 2.1. The Global Stakeholder feedback round has started from 01/06/2023 and end on 01/07/2023. No comments received during the SFR. Moreover, the CME tried to invite equal participation from all the genders of the society as well as all sections of society as a whole.

The stakeholder dates are summarized below:

Invitation of Public via public notice	10/04/2023
Invitation via email	04/05/2023
Physical Stakeholder meeting	10/05/2023
Global stakeholder feedback round start	01/06/2023
Global stakeholder feedback round End	01/07/2023

Thus, it can be concluded that stakeholder inclusivity has been ensured in the VPA and the project has also witnessed full support from all sections of the society considering the health and environmental benefits associated with the VPA.

E.2. Final continuous input / grievance mechanism

METHOD	INCLUDE ALL DETAILS OF CHOSEN METHOD (S) SO THAT THEY MAY BE UNDERSTOOD AND, WHERE RELEVANT, USED BY READERS.

Continuous Input / Grievance Expression Process Book (mandatory)	**Grievance/Feedback books**: The general project description as well as feedback books are available at the local office of the distribution's partners. Feedback from stakeholders during office visits will be documented in the feedback/grievance books. **Continuous feedback:** The monitoring process of project includes regular community meetings and household visits through the field team of the distribution partners. The field team will document any feedback/grievances of the community members. Also at ground level, each water filter units have the centralized customer support number is mentioned as well as the distribution agent with whom the beneficiary can communicate at any time and raise their issues or feedback which if found adequate are being resolved adequately.
GS Contact (mandatory)	help@goldstandard.org
Other	Furthermore, written feedback can be given via e-mail or letter to the following people: **CME: EKI Energy Services Limited** Office no. 201, Plot 48, Scheme 78 part 2 Vijay Nagar Indore Madhya Pradesh 452010 India registry@enkingint.org

SECTION F. Eligibility and inclusion criteria for VPAs inclusion

The below table shall be completed for all VPAs. The CME shall provide clear description on how eligibility criteria set at real case VPAs are complied with for each real case and regular VPAs submitted for inclusion. The CME shall not change the eligibility criteria and required condition set at real case VPAs. At the time of inclusion of regular VPAs, the CME shall only describe how the regular VPAs comply with the eligibility criterion.

NO.	ELIGIBILITY CRITERION	DESCRIPTION/ REQUIRED CONDITION	DESCRIPTION OF THE VPA IN RELATION TO THE CRITERIA, MEANS OF VERIFICATION/SUPPORTING EVIDENCE FOR INCLUSION
1	Scale of regular VPAs included under the real case VPA	The regular VPAs included under this real case VPA shall be micro-scale or small-scale level i.e. the annual ERs shall be less than 10,000 tCO_2e/year for micro scale and 60,000 for small scale tCO_2e/year.	The project is a micro scale project, which will generate ERs less than the micro-scale threshold of 10 $ktCO_2$/year.
2	Type of technology	The regular VPAs included under this real case VPA shall include only Household water treatment unit.	The technical specifications of the Household water treatment unit will be maintained by the VPA implementer.
3	Methodology used in the VPAs	The regular VPAs included under this real case VPA will only use the gold standard methodology i.e. METHODOLOGY FOR EMISSION REDUCTIONS FROM SAFE DRINKING WATER SUPPLY, Version: 1.0.	Section B.2 of each VPA-DD shows that the inclusion criteria for Methodology application are met.
4	Location of the VPAs	The regular VPAs should be located within the geographical boundaries of Dindori & Anuppur district of Madhya Pradesh, India.	KML file depicting the project location as described in section A.2 of this document. The means of verification will be Google maps specific to the site provided.

5	Baseline scenario	Use of non-renewable fuel wood for boiling the contaminated water to make it free from harmful impurities is deemed as the realistic pre-project scenario (suppressed demand).	The baseline scenario will be the same for all the regular VPAs.
6	Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals, such as unique identifications of product and end-user locations	Carbon emission reductions claimed by the regular VPAs should be unique and not counted more than once.	In order to avoid double counting, the CME will place a procedure in which the details of the end user (beneficiary) along with name, village, district, & along with unique serial number has been be recorded in their database. VPA-DD section B.7.3, describing the unique device numbering system for the VPA.
7	Conditions to check the start date of the VPA through documentary evidence	Date of start of project activities of the regular VPAs should be after start date of PoA	Filter distribution records and project documentation has been maintained by the VPA implementer.
8	Condition to identify the target group (e.g. domestic/commercial/ industrial, rural/urban), and where applicable, distribution mechanisms (e.g. direct installation).	The regular VPAs will involve providing access to clean and affordable household-based water treatment units in India (in particular, poor rural households.	Project Records maintained for monitoring and project documentation by the VPA implementer.

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into SECTION D above. Please refer to the instructions in the Guide to Completing this Form below.

SOCIAL SAFEGUARDING PRINCIPLES		
Reference requirement	Question	Response
P.1 |HUMAN RIGHTS		
P.1.1.1 |	Does the project developer, its representatives and the Project disrespect internationally proclaimed human rights?	☐ YES ☒ NO
P.1.1.1 |	Is the project involved or complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights?	☐ YES ☒ NO
P.1.1.2 |	Have local communities or individuals raised human rights concerns regarding the project (e.g., during the stakeholder engagement process, grievance processes, public statements)?	☐ YES ☒ NO
P.1.1.3 |	Is there a risk that rights-holders (e.g., Project-affected stakeholders) do not have the capacity to claim their rights?	☐ YES ☒ NO
P.1.1.3 |	Does this project undermine national or regional measures for the realisation of the right to development?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		
Please add text here…		
Would the project potentially involve or lead to:		
P.1.1.1 |	adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalised groups?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.2 |	inequitable or discriminatory impacts on affected populations, particularly people living in poverty or marginalised or excluded individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.3 |	restrictions in availability, quality of and/or access to resources or basic services, in particular to marginalised individuals or groups, including persons with disabilities?	☐ YES ☐ POTENTIALLY ☒ NO
P.1.1.3 |	exacerbation of conflicts among and/or the risk of violence to project-affected communities and individuals?	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project incorporates a human rights-based approach.
For example, by describing how the project design:

- is informed by human rights analysis, including from UN human rights mechanisms (human rights treaty bodies, universal periodic review, special procedures)
- includes measures to assist the government to realise (respect, protect and fulfil) human rights under international law and to implement human rights-related standards in national law (whichever is higher)
- enhances the availability, accessibility and quality of benefits and services for potentially marginalised individuals and groups, and to increase their inclusion in decision-making processes that may impact them (consistent with the non-discrimination and equality human rights principle)
- provides reasonable accommodations to strengthen inclusivity and accessibility of project benefits and services to persons with disabilities.

Please add text here….

The Project is not in conflict with the economic livelihood of the local community.

The Project does not cause any human rights abuse and respects internationally proclaimed human rights issue.

Further, the Project meets the local labor law requirements thus does not cause any human rights abuse.

India has ratified the United Nations Human Rights Rules and regulations. The India ratified the same as per web link[67] given below.

The project adheres to the host country's commitment to:

Universal Declaration of Human Rights (UDHR) International Covenant on Economic, Social and Cultural Rights, India Accession 10/04/79[68]

P.2 |GENDER EQUALITY AND WOMEN'S EMPOWERMENT

P.2.1.1 |	Have women's groups/leaders raised gender equality concerns regarding the project, (e.g., during the stakeholder engagement process, grievance processes, public statements)?	☐ YES ☒ NO
P.2.1.2 |	Does the project undermine the principles of non-discrimination, equal treatment, and equal pay for equal work?	☐ YES ☒ NO
P.2.1.2 |	Does the project prevent men and women from having equal opportunities to participate in identified tasks and activities, whether through paid work, volunteer work, or community contributions, as appropriate?	☐ YES ☒ NO

[67] https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

[68] https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

P.2.1.2 |	Does the project limit the participation of women or men based on pregnancy, maternity/paternity leave, or marital status?	☐ YES ☒ NO
P.2.1.2 |	Is information about project objectives being communicated in a way that is inappropriate for the local context and not tailored to the methods of understanding of both women and men, which could hinder their participation?	☐ YES ☒ NO
P.2.1.3 |	Has the project assessed gender risks without referencing the country's gender strategy or equivalent national commitment?	☐ YES ☒ NO
P.2.1.4 |	Has expert stakeholder(s) been involved, and has their input been requested for the project design on gender equality and women's empowerment?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:		
P.2.1.1 |	adverse impacts on gender equality and/or the situation of women and girls?	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.1 |	exacerbation of risks of gender-based violence? For example, through the influx of workers to a community, changes in community and household power dynamics, increased exposure to unsafe public places and/or transport, etc.	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.2 |	reproducing discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	☐ YES ☐ POTENTIALLY ☒ NO
P.2.1.2 |	limitations on women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well-being.	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project is addressing any identified risk to gender equality and women's empowerment.

The project does not adversely affect men and women in marginalized or vulnerable communities. Employment opportunities have been provided by the PP to the local people from the nearby villages around the project site which in turn has improved the livelihood and living standards of the local people.
The HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of the gender

P.3 |COMMUNITY HEALTH AND SAFETY

P.3.1.1 |	Does the project involve potential risks to the health and safety of affected communities during its life cycle?	☐ YES ☒ NO
P.3.1.2 |	Does the project involve any potential risks to the workers' safety and health?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:

P.3.1.1 |	construction and/or infrastructure development (e.g., roads, buildings, dams)?	☐ YES ☒ NO
P.3.1.2 |	air pollution, noise, vibration, traffic, injuries, physical hazards, poor surface water quality due to runoff, erosion, sanitation?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	harm or losses due to failure of structural elements of the project (e.g., collapse of buildings or infrastructure)?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	risks of water-borne or other vector-borne diseases (e.g., temporary breeding habitats), communicable and noncommunicable diseases, nutritional disorders, mental health?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g., explosives, fuel and other chemicals during construction and operation)?	☐ YES ☐ POTENTIALLY ☒ NO
P.3.1.2 |	adverse impacts on ecosystems and ecosystem services relevant to communities' health (e.g., food, surface water purification, natural buffers from flooding)?	☐ YES ☐ POTENTIALLY ☒ NO

Briefly describe below how the project is addressing any identified risk related to community health and safety.

The VPA is a water filter distribution project aimed at providing clean water solutions to households. It is designed to operate without exposing anyone to increased health risks. The project ensures that it will not have any negative impact on the health of the user, and it is structured to safeguard the well-being of all those involved in the distribution process.

P.4 |CULTURAL HERITAGE, INDIGENOUS PEOPLE, DISPLACEMENT AND RESETTLEMENT

P.4.1 |Sites of Cultural and Historical Heritage

P.4.1.1 |	Does the project involve altering, damaging, or removing sites, objects, or structures of significant cultural heritage?	☐ YES ☒ NO

If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:		
P.4.1.1 |	activities adjacent to or within a cultural heritage site?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 |	significant excavations, demolitions, movement of earth, flooding or other environmental changes?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 |	alterations to landscapes and natural features with cultural significance?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.1 |	adverse impacts to sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, practices)? (Note: projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.2 |	utilisation of tangible and/or intangible forms (e.g., practices, traditional knowledge) of Cultural Heritage for commercial or other purposes?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.1.2 |	If answer to question above is "YES" or "POTENTIALLY" - are the communities made aware of their right under the law, scope and nature of proposed development and its potential consequences?	☐ YES ☐ NO ☒ NA
P.4.1.3 |	If answer to question above is "YES" - does the project provide equitable sharing of benefits from commercialisation of such knowledge, innovation, or practice, consistent with their customs and traditions?	☐ YES ☐ NO ☒ NA
P.4.1.4 |	If answer to question above is "YES" - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.1.4 |	If answer to question above is "YES", has project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		
P.4.2 |*Forced Eviction and Displacement*		
P.4.2.1 |	Does the project involve any risks related to involuntary relocation of people?	☐ YES ☒ NO
If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		

Please add text here….		
Would the project potentially involve or lead to:		
P.4.2.1 |	risk of forced evictions or involuntary relocation of people?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 |	temporary or permanent and full or partial physical displacement (including people without legally recognisable claims to land)?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 |	economic displacement (e.g., loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.2.2 |	If answer to question above is "YES" or "POTENTIALLY", - has the project developed Resettlement Action Plan or Livelihood Action Plan in consultation and agreement with affected individual, group or community? - has the project integrated Resettlement Action Plan or Livelihood Action Plan into the Project design?	☐ YES ☐ NO ☒ NA
P.4.2.3 |	If answer to question above is "YES" - are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA
P.4.2.3 |	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		
P.4.3 |LAND TENURE AND OTHER RIGHTS		
P.4.3.1 |	Does the project involve any risks related to identifying and managing legitimate tenure rights that may be affected by the project?	☐ YES ☒ NO
If the answer to question above is "yes," please explain the reason and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project potentially involve or lead to:		
P.4.3.1 |	impacts on or changes to land tenure arrangements and/or community-based property rights/customary rights to land, territories and/or resources?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.3.1 |	uncertainties with regards to land tenure, access rights, usage rights or land ownership?	☐ YES

	Examples include, but are not limited to water access rights, community-based property rights and customary rights.	☐ POTENTIALLY ☒ NO
P.4.3.2 |	Changes in legal arrangements, if yes, are the changes done in line with relevant laws and regulations?	☐ YES ☒ NO ☐ NA
P.4.3.2 |	Changes in legal arrangements, if yes, are these changes agree with free, prior and informed consent of the involved stakeholders?	☐ YES ☒ NO ☐ NA
P.4.3.3 |	Does some other entity (other than the project developer) hold uncontested land title for the entire Project Boundary?	☐ YES ☒ NO ☐ NA
P.4.3.4 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA
P.4.3.4 |	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA
P.4.3.5 |	Have project developer in consultation with stakeholders established a functioning mechanism to receive, process, resolve, communicate and record grievances?	☐ YES ☒ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.4.4 |INDIGENOUS PEOPLES

P.4.4.1 |	Does the project involve Indigenous People within the Project area of influence who may be affected directly or indirectly by the Project?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project potentially involve or lead to:

P.4.4.1 |	affect areas where indigenous peoples are present (including project area of influence)	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.1 |	affect areas, land and territory claimed by indigenous peoples?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.1 |	impacts (positive or negative) to the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples?	☐ YES ☐ POTENTIALLY ☒ NO

P.4.4.7 |	If answer to above questions is ''YES'' or "POTENTIALLY", - Is it determined that the proposed project may affect the rights, lands, resources, or territories of indigenous people? - Has an "Indigenous People Plan" (IPP) or "Indigenous People Plan Framework" been elaborated and included in the project documentation? - Was the plan developed in accordance with the effective and meaningful participation of indigenous peoples and in accordance with UNDP Guidelines?	☐ YES ☐ NO ☒ NA
P.4.4.3 |	risk of forcibly removing indigenous people from their lands and territories?	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.4 |	utilisation and/or commercial development of natural resources on lands and territories claimed by indigenous peoples? Consider, and where appropriate ensure, consistency with the answers under Principle 4.1 above	☐ YES ☐ POTENTIALLY ☒ NO
P.4.4.5 | P.4.4.6 |	If answer to question above is "YES" or "POTENTIALLY" - Did the project obtain free, prior and informed consent from indigenous people before taking their cultural, intellectual, religious, and/or spiritual property? - Does the project ensure that the indigenous people receive an equitable sharing of benefits resulting from the use of their traditional knowledge and practices? ? - Does the project ensure that the sharing of benefits resulting from the use of indigenous peoples' traditional knowledge and practices is culturally appropriate and inclusive? - Does the project ensure that the provision of equitable sharing of benefits does not impede land rights or equal access to basic services including health services, clean water, energy, education, safe and decent working conditions, and housing?	☐ YES ☐ NO ☒ NA
P.4.4.8 |	Does the project lack appropriate feedback and grievance channels for Indigenous Peoples and their representatives?	☐ YES ☒ NO ☐ NA
P.4.4.8 |	Has a grievance mechanism not been established at the beginning of programme or project implementation with due consideration given to customary dispute settlement	☐ YES ☒ NO ☐ NA

	mechanisms among the Indigenous Peoples concerned and will it remain operational throughout the project cycle?	
P.4.4.9 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA
P.4.4.9 |	If answer to question above is "YES", have project design been changed, modified, updated considering opinions and recommendations of an Expert Stakeholder?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.5 |CORRUPTION

P.5.1.1 |	Does the project involve, or is it complicit in, contributing to or reinforcing corruption or corrupt projects?	☐ YES ☒ NO
P.5.1.1 |	Does the project have a risk of encouraging bribery, kickbacks, or other unethical behavior?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

ECONOMIC SAFEGUARDING PRINCIPLES

P.6 |ECONOMIC IMPACTS

P.6.1 |LABOUR RIGHTS AND WORKING CONDITIONS

P.6.1.1 |	Does the project involve, facilitate, or condone forced labor, or pose a potential risk of forced labor?	☐ YES ☒ NO
P.6.1.1 |	Does the project violate any labor or health and safety laws, international obligations, or ILO conventions?	☐ YES ☒ NO
P.6.1.2 |	Does the project violate the principles of equal opportunity and fair treatment in its employment decisions?	☐ YES ☒ NO
P.6.1.3 |	Does the project violate national laws, if available regarding non-discrimination in employment?	☐ YES ☒ NO
P.6.1.4 | P.6.1.5 |	Does the project allow child labor?	☐ YES ☒ NO
P.6.1.7 | P.6.1.8 |	Does the project have insufficient processes and measures in place to ensure the safety and health of project workers?	☐ YES ☒ NO
P.6.1.9 |	Does the project have insufficient measures to safeguard and support vulnerable project workers, such as women, people with disabilities, migrant workers, and young workers, and to prevent any kind of harassment, abuse,	☐ YES ☒ NO

	bullying, or exploitation, including gender-based violence (GBV)?	
P.6.1.10 |	Does the project have no grievance mechanism available for workers to voice workplace concerns? Is information about this mechanism not provided to workers at the time of recruitment, or is it not easily accessible?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project potentially involve or lead to: (NOTE: APPLIES TO BOTH PROJECT AND CONTRACTOR WORKERS)		
P.6.1.1 |	use of forced labour?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	working conditions that do not meet national labour laws and international commitments?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	working conditions that may deny freedom of association and collective bargaining?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	absence of documented working agreements with all individual workers *if such agreements do not exist, or do not address working conditions and terms of employment, the project developer shall provide reasonable working conditions and terms of employment.*	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	use of migrant workers? *if engaged, the developer shall ensure that they are engaged substantially equivalent terms and conditions to non-migrant workers carrying out similar work.*	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.1 |	having no arrangements for basic services[69] for workers? *the project developer shall put in place and implement policies on the quality and management of the accommodation and provision of basic services in a manner consistent with the principles of non-discrimination and equal opportunity. Workers' accommodation arrangements*	☐ YES ☐ POTENTIALLY ☒ NO

[69] Basic services requirements refer to minimum space, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, noise, fire, and disease-carrying animals, adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services.

	should not restrict workers' freedom of movement or of association	
P.6.1.2 |	any form of discrimination or harassment based on factors unrelated to job requirements, such as gender, race, nationality, ethnicity, social or indigenous origin, religion or belief, disability, age, or sexual orientation?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 |	any form of discrimination in any aspect of employment, such as recruitment, compensation, working conditions, training, job assignment, promotion, termination, or discipline?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.2 |	harassment, intimidation, and/or exploitation, especially in regard to women?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.3 |	discriminatory working conditions and/or lack of equal opportunity where national law provides provision to address non-discrimination in employment?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.4 |	use of child labour? (including third-party engaged workers)	☐ YES ☐ POTENTIALLY ☒ NO
P.6.1.4 |	inadequate and verifiable mechanisms for age verification?	☐ YES ☒ NO
P.6.1.7 |	no processes and measures in place for the safety and health of project workers?	☐ YES ☒ NO
P.6.1.7 |	No provision of safety and health training provisions, including on the proper use and maintenance of personal protective equipment conducted by competent persons and the maintenance of training records?	☐ YES ☒ NO
P.6.1.7 |	No provision to record and document accidents, diseases, incidents, and any resulting injuries, illnesses, or deaths?	☐ YES ☒ NO
P.6.1.8 |	occupational health and safety risks due to physical, chemical, biological and psychosocial hazards (including violence and harassment) throughout the project life-cycle?	☐ YES ☒ NO
P.6.1.9 |	No measures to protect vulnerable project workers from harassment, exploitation, and gender-based violence (GBV)? This includes women, people with disabilities, migrant workers, and young workers.	☐ YES ☒ NO
P.6.1.10 |	No grievance mechanism available for workers to voice workplace concerns.	☐ YES ☒ NO
P.6.1.11 |	No measures for due diligence and the establishment of policies and procedures to manage and monitor the performance of third-party employees in the project?	☐ YES ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.6.2 |NEGATIVE ECONOMIC CONSEQUENCES		
P.6.2.1 |	Is there a risk of project failure during implementation or after project certification due to a lack of financial resources?	☐ YES ☒ NO
P.6.2.2 |	Does the project have potential negative impacts or pose a risk to the local economy?	☐ YES ☒ NO
P.6.2.2 |	Are there any potential risks or negative impacts this project may have on vulnerable or marginalised social groups, despite the benefits it may bring?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here…

Would the project involve or lead to:

P.6.2.2 |	economic impacts (negative/detrimental) to the local economy?	☐ YES ☐ POTENTIALLY ☒ NO
P.6.2.2 |	negative economic consequences during and after project implementation, e.g., for vulnerable and marginalised social groups in targeted communities?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.7 |**CLIMATE AND ENERGY**

P.7.1 |GHG EMISSIONS

P.7.1.1 |	Does the project have a risk of increasing greenhouse gas emissions over the Baseline Scenario?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

P.7.1.1 |	increase greenhouse gas emissions over the Baseline Scenario?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.7.2 |ENERGY SUPPLY		
P.7.2.1 |	Does the project pose a risk to the availability and reliability of energy supply to other users?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.
Please add text here….

Would the project involve or lead to:		
P.7.2.1 |	negative impact on the availability and reliability of energy supply to other users?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.
Please add text here….

P.8 |WATER		
P.8.1 |IMPACT ON NATURAL WATER PATTERNS/FLOWS		
P.8.1.1 |	Does the project increase water usage to a level that will not allow for the maintenance of environmental flows?	☐ YES ☒ NO
P.8.1.1 |	Does the project result in the discharge of wastewater that does not meet the required standard for beneficial reuse and could therefore negatively impact the environmental flow?	☐ YES ☒ NO
P.8.1.1 |	Does the project have the potential risk to exceed the rate of recharge for the groundwater source?	☐ YES ☒ NO
P.8.1.1 |	Does the project involve any processes or activities that could contaminate the groundwater and render it unsuitable for use?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.
Please add text here….

Would the project involve or lead to:		
P.8.1.1 |	affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	☐ YES ☐ POTENTIALLY ☒ NO

P.8.1.1 |	Wastewater discharge of quality that does not meet the required standard for beneficial reuse?	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.1 |	significant extraction, diversion of ground water? For example, construction of dams, reservoirs, river basin developments, groundwater extraction	☐ YES ☐ POTENTIALLY ☒ NO
P.8.1.2 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.8.2 |EROSION AND/OR WATER BODY INSTABILITY

P.8.2.1 |	Does the project have a risk of negatively impacting the catchment and has it been assessed and addressed?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

P.8.2.2 | - P.8.2.5 |	negatively impact on the catchment area? *If yes, Erosion prevention measures, including soil and slope protection measures, must be implemented before project commencement. These measures should involve natural terracing, infiltration strips, permanent ground cover, hedge and tree rows, and effective slope length assessment. Regular reassessment of these measures is necessary.*	☐ YES ☐ POTENTIALLY ☒ NO
P.8.2.6 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.9 |ENVIRONMENT, ECOLOGY AND LAND USE

P.9.1 |LANDSCAPE MODIFICATION AND SOIL

P.9.1.1	Is there any risk of soil resource degradation or loss of ecosystem services provided by soils in the project? *If yes, the project shall maintain healthy soils by minimising negative impacts on soil health, productivity, structure, and water retention. Steps to minimise soil degradation include crop rotation, composting, using N-fixing plants, and reducing tillage and ecologically harmful substances.*	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

P.9.1.4	production, harvesting, and/or management of living natural resources by small-scale landholders and/or local communities?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.1.4	if answer to above question "yes" or "potentially", does project adopt appropriate and culturally sensitive sustainable resource management practices?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.9.2 |VULNERABILITY TO NATURAL DISASTER

P.9.2.1	Does the project have any risks associated with natural or man-made hazards that could result from land use changes due to the project?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

P.9.2.2	any potential risks that require emergency preparedness and response planning?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.2.2	if answer to above question "yes" or "potentially", did the project developer disclose appropriate information about emergency preparedness and response to affected communities?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.
Please add text here….

P.9.3 |BIOSAFETY AND GENETIC RESOURCES

P.9.3.1 |	Does the project involve the transfer, handling, and use of genetically modified organisms/living modified organisms that may result in adverse effects on biological diversity?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.
Please add text here….

Would the project involve or lead to:

P.9.3.1 |	the transfer, handling and use of genetically modified organisms/living modified organisms (GMOs/LMOs) that result from modern biotechnology	☐ YES ☐ POTENTIALLY ☒ NO
P.9.3.1 |	If answer to above question is "yes" has a risk assessment by a competent Expert stakeholder been carried out in accordance with Annex iii of the Cartagena protocol on biosafety to the convention on biological diversity?	☐ YES ☐ NO ☒ NA
P.9.3.2 |	If answer to above question is "yes" has any risks identified in the risk assessment?	☐ YES ☐ NO ☒ NA
P.9.3.3 |	Forestry (for example Afforestation/Reforestation) involving GMO planting? *Note - Forestry projects (for example Afforestation/ Reforestation) involving GMO planting are not eligible for Certification under Gold Standard for the Global Goals.*	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.
Please add text here….

P.9.4 |RELEASE OF POLLUTANTS

P.9.4.1 |	Does the project have a risk of releasing pollutants to air, water, and land in routine, non-routine, or accidental circumstances?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.
Please add text here….

Would the project involve or lead to:		
P.9.4.1 |	any potential risk of pollutant release that cannot be avoided?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.4.3 |	If answer to above question is "Yes" or "potentially", has the project identified all potential pollution sources that may degrade the quality of soil, air, surface, and groundwater in the project area?	☐ YES ☐ NO ☒ NA
P.9.4.2 |	If answer to above question is "Yes" or "potentially", do the pollution prevention and control technologies and practices applied during the project life cycle align with national regulations or international best practices?	☐ YES ☐ NO ☒ NA
P.9.4.3 |	If answer to above question is "Yes", is there a monitoring plan to ensure that mitigation measures are implemented, and resources are protected?	☐ YES ☐ NO ☒ NA
If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		

P.9.5 |HAZARDOUS AND NON-HAZARDOUS WASTE		
P.9.5.1 |	Does the project involve the generation of waste materials (both hazardous and non-hazardous)?	☐ YES ☒ NO
P.9.5.3 |	Does the project involve risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☒ NO
P.9.5.5 |	Does the project involve the use of any chemicals or materials subject to international bans or phase-outs?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		

Would the project involve or lead to:		
P.9.5.1 |	the generation and management of waste materials?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.5.1 |	treatment, destruction, or disposal of waste material?	☐ YES ☒ NO ☐ NA
P.9.5.1 |	If answer to above question is "Yes", does the project involve an environmentally friendly method that includes appropriate control of emissions and residues resulting from the handling and processing of waste material?	☐ YES ☐ NO ☒ NA

P.9.5.3 |	risk of release of hazardous materials resulting from their production, transportation, handling, storage, or use?	☐ YES ☒ NO ☐ NA
P.9.5.3 |	If answer to above question is "yes", does project has measures in place to address health risks?	☐ YES ☐ NO ☒ NA
P.9.5.4 |	Involve manufacture, trade, and use of chemicals and hazardous materials subject to international bans or phase-outs due to their high toxicity to living organisms, environmental persistence, potential for bioaccumulation, or potential for depletion of the ozone layer	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.9.6 |PESTICIDES & FERTILISERS

P.9.6.1 |	Does the project involve the use of chemical pesticides?	☐ YES ☒ NO
P.9.6.5 |	Does the project involve purchase, store, manufacture, trade or use products that fall in Classes IA (extremely hazardous) and IB (highly hazardous)	☐ YES ☒ NO
P.9.6.6 |	Does the project use fertilisers, and if so, are measures being taken to minimise their use and nutrient losses to the environment?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

P.9.6.1 |	chemical pesticides use for pest management?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.6.4 |	If answer to question above is "yes" or "potentially", does project has documented Chemical Pesticides Policy in place?	☐ YES ☐ NO ☒ NA
P.9.6.5 |	purchase, store, use, manufacture, or trade in Class II (moderately hazardous) pesticides?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.6.5 |	If answer to question above is "yes" or "potentially", does project has appropriate controls on manufacture, procurement, or distribution and/or use of these chemicals?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above questions, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.
Please add text here….

P.9.7 |HARVESTING OF FORESTS

P.9.7.1 |	Does the project have a risk of unsustainable forest management, including timber harvesting?	☐ YES ☒ NO
P.9.7.1 |	Does the project pose a risk of depleting biodiversity and ecosystem functionality in areas where improved forest management is undertaken?	☐ YES ☒ NO
P.9.7.1 |	Does the project risk not meeting requirements for environment-friendly, socially beneficial, and economically viable plantations using native species whenever possible?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.
Please add text here….

P.9.8 |FOOD SECURITY

P.9.8.1 |	Does the project involve the risk of negatively influencing access to and availability of food for people affected?	☐ YES ☒ NO

If the answer to the question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.
Please add text here….

	Would the project involve or lead to:	
P.9.8.1 |	modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	☐ YES ☐ POTENTIALLY ☒ NO

If the answer is "yes" or "potentially" to the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.
Please add text here….

P.9.9 | ANIMAL WELFARE

P.9.9.1 |	Does the project involve any risks to animal welfare? Animal welfare shall be ensured by providing access to water and food, appropriate environment, humane treatment, and staff training. Evidence of mistreatment will be treated as an immediate non-conformity.	☐ YES ☒ NO
P.9.9.2 |	Does the project involve any potential risk of excessive or inadequate use of veterinary medicines?	☐ YES ☒ NO

P.9.9.4 |	Does the project involve the risk of administering synthetic growth promoters, including hormones?	☐ YES ☒ NO
If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.		
Please add text here….		
Would the project involve or lead to:		
P.9.9.1 |	animal husbandry or harvesting of fish populations or other aquatic species?[70]	☐ YES ☒ NO ☐ NA
P.9.9.1 |	limiting access for animals to basic needs like drinking water, adequate food, daylight, appropriate shelter etc.?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.9.3 |	inadequate measures to isolate sick animals and control the spread of disease, especially zoonotic diseases?	☐ YES ☒ NO ☐ NA
P.9.9.5 |	inadequate low-stress methods, equipment, and facilities that facilitate calm animal movement.	☐ YES ☒ NO ☐ NA
P.9.9.6 |	inadequate measures to ensure that animals are exposed to the least stress possible during transportation and slaughtering?	☐ YES ☒ NO ☐ NA
P.9.9.7 |	inappropriate spacing per animal and stocking rates per land unit?	☐ YES ☒ NO ☐ NA
P.9.9.8 |	inadequate measures to address the specific needs of aquatic animals?	☐ YES ☒ NO ☐ NA
P.9.9.9 | P.9.9.10 |	primary production of living natural resources such as animal husbandry, aquaculture, and fisheries? If the answer is yes, implement industry-standard sustainable management practices in line with to one or more relevant and credible standards and utilise available technologies.	☐ YES ☒ NO ☐ NA
If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		

[70] 'Involve' means if the project mechanism and/or impact(s) are achieved via changing animal husbandry practices in some way.

Please add text here….

P.9.10 |HIGH CONSERVATION VALUE AREAS AND CRITICAL HABITATS

P.9.10.1 |	Does the project have the risk of negatively impacting HCV areas and/or critical habitats?	☐ YES ☒ NO
P.9.10.2 |	Does the project in the project area or area of downstream impacts have risks to the following: native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☐ YES ☒ NO

If the answer to any of the questions above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

P.9.10.1 |	identified habitats as HCV areas and or Critical habitats?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.10.1 |	If answer to above question is "yes", does the project have any risks that could negatively impact the catchment, project success, and surrounding HCV and ecological assets, as well as any measurable adverse impacts on the criteria or biodiversity values for which the critical habitat was designated, and on the ecological processes supporting that biodiversity?	☐ YES ☐ NO ☒ NA
P.9.10.1 |	If answer to above question is "yes", is a robust, appropriately designed, and long-term Habitats and Biodiversity Action Plan absent which will make the project unable to achieve net gains of those biodiversity values for which the critical habitat was designated?	☐ YES ☐ NO ☒ N/A
P.9.10.2 |	Does the project area or area of downstream impacts have native tree patches, individual native trees, freshwater resources (including rivers, lakes, swamps, temporary water bodies, and wells), habitats of rare, threatened, and endangered species, and biodiversity-enhancing areas?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.10.2 |	If the answer to the above question is "yes", will the project have any adverse effects on these areas?	☐ YES ☐ No ☒ NA
P.9.10.3 |	If the answer to above question is "yes", does the project has opportunities to minimise unwarranted conversion or degradation of the habitat and to enhance the habitat as part of its development?	☐ YES ☐ No ☒ NA
P.9.10.4 |	Is the project applying Land Use & Forest Activity Requirements and managing a minimum 10% of the project area to protect or enhance the biological diversity of native ecosystems following HCV approach as per the given requirements?	☐ YES ☒ No ☐ NA

P.9.10.5 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☒ NO ☐ NA

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.9.11 |ENDANGERED SPECIES

P.9.11.1 |	Does the project lead to the reduction or negative impact on any recognised Endangered, Vulnerable or Critically Endangered species?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:

P.9.11.2 |	distortion of habitats of endangered species?	☐ YES ☐ POTENTIALLY ☒ NA
P.9.11.2 |	If answer to the above question is "yes", does the project plan to protect and enhance them?	☐ YES ☐ POTENTIALLY ☐ NO ☒ N/A
P.9.11.2 |	Are opinions and recommendations of an Expert Stakeholder(s) not sought and demonstrated as being included in the project design?	☐ YES ☐ NO ☒ NA

If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.

Please add text here….

P.9.12 |INVASIVE ALIEN SPECIES

P.9.12.1 |	Does project introduce any alien species (not currently established in the country or region of the project) into new environments?	☐ YES ☒ NO

If the answer to question above is "yes," please explain project situation and how the project will ensure compliance with applicable requirements.

Please add text here….

Would the project involve or lead to:		
P.9.12.1 |	risk of introducing any alien species with a high risk of invasive behaviour regardless of whether such introductions are permitted under the existing regulatory framework?	☐ YES ☐ POTENTIALLY ☒ NO
P.9.12.1 |	risk of potential accidental or unintended introductions including the transportation of substrates and vectors (such as soil, ballast, and plant materials) that may harbour alien species.	☐ YES ☐ POTENTIALLY ☒ NO
P.9.12.2 |	risk of spreading alien species into areas in which they have not already been established?	☐ YES ☐ POTENTIALLY ☒ NO
If the answer is "yes" or "potentially" to any of the above question, please provide a brief description of the project situation below. Also, provide justification and/or evidence as necessary to demonstrate compliance with applicable requirements.		
Please add text here….		

APPENDIX 2- CONTACT INFORMATION OF VPA IMPLEMENTER

Organisation name	EKI Energy Services Limited
Registration number with relevant authority	CIN L74200MP2011PLC025904 Ministry of Corporate Affairs
Street/P.O. Box	Office no. 201, Plot 48, Scheme 78 part 2 Vijay Nagar
Building	Enking Embassy
City	Indore
State/Region	Madhya Pradesh
Postcode	452010
Country	India
Telephone	+91 99075 34900
E-mail	registry@enkingint.org
Website	www.enkingint.org
Contact person	Mr. Manish Dabkara
Title	Managing Director & Chief Executive Officer
Salutation	Mr.
Last name	Dabkara
Middle name	-
First name	Manish
Department	Management
Mobile	+91-9907534900
Direct tel.	NA
Personal e-mail	manish@enkingint.org

APPENDIX 3- LUF ADDITIONAL INFORMATION

Risk of change to the Project Area during Project Certification Period:	Not Applicable
Risk of change to the Project activities during Project Certification Period:	Not Applicable
Land-use history and current status of Project Area:	Not Applicable
Socio-Economic history:	Not Applicable
Forest management applied (past and future)	Not Applicable
Forest characteristics (including main tree species planted)	Not Applicable
Main social impacts (risks and benefits)	Not Applicable
Main environmental impacts (risks and benefits)	Not Applicable
Financial structure	Not Applicable
Infrastructure (roads/houses etc):	Not Applicable
Water bodies:	Not Applicable
Sites with special significance for indigenous people and local communities - resulting from the Stakeholder Consultation:	Not Applicable
Where indigenous people and local communities are situated:	Not Applicable
Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance:	Not Applicable

APPENDIX 4 - DESIGN CHANGES

A4.1. Details of proposed or actual design change

>> Not Applicable

A4.2. Describe the Impacts of Design Change on the following

a. Additionality

>> Not Applicable

b. Applicability of methodology and other methodological regulatory documents with which the project activity has been certified

>> Not Applicable

c. Compliance with the monitoring plan of the applied methodology

>> Not Applicable

d. Level of accuracy and completeness in the monitoring of the project activity compared with the requirements contained in the registered monitoring plan

>> Not Applicable

e. ***Scale of the project activity***

>> Not Applicable

f. Stakeholder consultation

>> Not Applicable

g. Sustainable development criteria

>> Not Applicable

h. Safeguarding Assessment

>> Not Applicable

i. Compliance with applicable legislation

>> Not Applicable

Revision History

Version	Date	Remarks
2.3	Dd/mm/yyyy	Editorial changes in line with V2.1 of the Safeguarding Principles and Requirements
2.2	21 June 2023	Editorial changes in line with V2.0 of the Safeguarding Principles and Requirements
2.1	14 April 2023	Integrated the design change memo as annex of the document.
2.0	4 May 2022	
1.1	7 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption