



Sustainable Development Verified Impact Standard

CLEAN COOKING- COOK STOVE FOR RURAL INDIA



Document Prepared by EKI Energy Services Ltd.

Project Title	<i>Clean Cooking- Cook Stove for Rural India</i>
Version	<i>01</i>
Date of Issue	<i>24-July-2022</i>
Project Location	<i>India</i>
Project Proponent(s)	<i>1. Vitol Asia Pte Ltd Contact - +65 6737 9922 Email - jga@vitol.com 2. EKI Energy Services Ltd. Contact - +91 99075 34900 Email - manish@enkingint.org and registry@enkingint.org</i>
Assessor Contact	<i>RINA</i>
Project Lifetime	<i>16 June 2022 – 31 May 2029; 7-year lifetime</i>
Monitoring Period of this Report	<i>16 June 2022 to 30 September 2022 (inclusive of both dates)</i>

History of SD VSta Status	<i>Validation of SD VSta PD is in progress.</i>
Other Certification Programs	<i>Programs</i> <i>The project is also applying for validation under Verified Carbon Standard Concurrently.</i> <i>Project identification number – 2942</i>
Expected Future Assessment Schedule	<i>Initial validation and verification are to be completed in early 2023.</i>

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1 SUMMARY OF SDG CONTRIBUTIONS

Table 1: Summary of SDG Contributions

Row number	Quantitative Project Contributions during Monitoring Period	Contributions during Project Lifetime	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Section Reference	Claim, Asset or Label
Sequential row number	Brief description of the quantifiable impact of the project's activities related to the SDG indicator, during the monitoring period	Brief description of the cumulative quantifiable impact of the project's activities related to the SDG indicator, during the project lifetime	SDG target number	Number and text of SDG indicator or, if no official SDG indicator is applicable, user-defined indicator	Indicate the project's net contribution to the indicator		
1)	Contributed by 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. The project provided access to 234,114 numbers of clean cookstoves in the monitoring period 16 th June 2022 – 30 th Sept 2022.	Contributed by 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. The project provided access to 234,114 numbers of clean cookstoves in the monitoring period 16 th June 2022 – 30 th Sept 2022.	1.4	1.4.1 Proportion of the population living in households with access to basic services – Clean Technology.	Implemented activities to increase.	Section: 3.2 Impact #1	SD VISTA labeled VCUs
2)	The project activity has replaced 234,114 numbers of traditional cookstoves with energy-efficient project cookstoves which are	The project activity has replaced 234,114 numbers of traditional cookstoves with energy-efficient project cookstoves which are	3.9	Project-specific indicator: Reduction in PM2.5 emissions.	Implemented activities to decrease	Section: 3.2 Impact #2	SD VISTA labeled VCUs

	contributing to improving health and well-being by reducing levels of fine particulate matter (PM2.5) emissions within households. Thus, the project has achieved SDG Goal 3: Ensure Healthy lives and promote well-being for all at all ages.	contributing to improving health and well-being by reducing levels of fine particulate matter (PM2.5) emissions within households. Thus, the project has achieved SDG Goal 3: Ensure Healthy lives and promote well-being for all at all ages.					
3)	Contributed to increasing the vocational and relevant skills of 415 numbers 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 stove distribution and its monitoring under VCS. Thus, the project has achieved SDG Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	Contributed to increasing the vocational and relevant skills of 415 numbers 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 stove distribution and its monitoring under VCS. Thus, the project has achieved SDG Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	4.3	Project-specific indicator: Number of individuals who received any informal training to enable their employment in project activity or elsewhere.	Implemented activities to Increase	Section: 3.2 Impact #3	SD VISTA labeled VCUs
4)	In comparison to the baseline, where women were spending about 17.5 hours per week (2.5 hours per day) collecting fuelwood and cooking combined, there has been a reduction of 4 hours per week. Thus, the project led to on average 4hrs of time savings per week and reduced drudgery in 234,114 households, translating to an equal number of women as they are primary cooks and fuel wood	In comparison to the baseline, where women were spending about 17.5 hours per week (2.5 hours per day) collecting fuelwood and cooking combined, there has been a reduction of 4 hours per week. Thus, the project led to on average 4hrs of time savings per week and reduced drudgery in 234,114 households, translating to an equal number of women as they	5.4	5.4.1 Time spent on unpaid domestic and care work, by sex, age, and location.	Implemented activities to Decrease	Section: 3.2 Impact #4	SD VISTA labeled VCUs

	collectors in most households. Now, these women can use their saved time for doing more productive activities or personal care. Thus, the project has achieved SDG Goal 5: Achieve Gender Equality and empower all women and girls.	are primary cooks and fuel wood collectors in most households. Now, these women can use their saved time for doing more productive activities or personal care. Thus, the project has achieved SDG Goal 5: Achieve Gender Equality and empower all women and girls.					
5)	Contributed to increasing access to clean cooking technology with Improved Cookstove (ICS) installations in 234,114 Indian households that have been using traditional three-stone fire in the current monitoring period. Thus, the project has achieved SDG Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all.	Contributed to increasing access to clean cooking technology with Improved Cookstove (ICS) installations in 234,114 Indian households that have been using traditional three-stone fire in the current monitoring period. Thus, the project has achieved SDG Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all.	7.1	7.1.2 Proportion of the population with primary reliance on clean fuels and technology	Implemented activities to Increase	Section: 3.2 Impact #1	SD VISTA labeled VCUs
6)	The project has contributed to the generation of employment in the informal sector (total economy, agriculture, and non-agriculture) by contracting locals for employment of 415 employees with a male: female ratio of 335:80. Since the project led to the generation of employment opportunities, it has achieved SDG Goal 8: Promote Sustained, inclusive, and sustainable economic growth, full and productive employment, and Decent Work for all.	The project has contributed to the generation of employment in the informal sector (total economy, agriculture, and non-agriculture) by contracting locals for employment of 415 employees with a male: female ratio of 335:80. Since the project led to the generation of employment opportunities, it has achieved SDG Goal 8: Promote Sustained, inclusive, and sustainable economic growth, full and productive employment, and Decent Work for all.	8.3	8.3.1 Proportion of informal employment in non-agriculture employment, by sex.	Implemented activities to Increase	Section: 3.2 Impact #5	SD VISTA labeled VCUs

7)	In the current monitoring period, the project has contributed to GHG emission reduction through a reduction of 148,372 tCO₂e by replacing 234,114 baseline stoves with ICS. Thus, the project has achieved SDG Goal 13: Take urgent action to combat Climate Change and its impacts	In the current monitoring period, the project has contributed to GHG emission reduction through a reduction of 148,372 tCO₂e by replacing 234,114 baseline stoves with ICS. Thus, the project has achieved SDG Goal 13: Take urgent action to combat Climate Change and its impacts	13.0	Tonnes of greenhouse gas emissions avoided or removed	Decreased	VCS verification report for the period 16 06 2022 to 30 09 2022	SD VISTA-labeled VCU
8)	The project has contributed to a reduction in the removal of woody biomass at the tune of ~3.1 tons/stove/year in the current monitoring period, from forests surrounding the communities thereby leading to an increase in above-ground biomass in these forests. Thus, the project will achieve SDG Goal 15: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	The project has contributed to a reduction in the removal of woody biomass at the tune of ~3.1 tons/stove/year in the current monitoring period, from forests surrounding the communities thereby leading to an increase in above-ground biomass in these forests. Thus, the project will achieve SDG Goal 15: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	15.2	15.2.1 Progress toward sustainable forest management by increasing above-ground biomass in forests	Implemented activities to increase	Section: 4.2 Impact #1	SD VISTA-labeled VCU

2 PROJECT DESIGN

2.1 Project Objectives, Context and Long-term Viability

2.1.1 Summary of Project Sustainable Development Objective(s)

Distribution of fuel-efficient Improved Cookstoves (ICS) in different Indian states is the project's primary goal. The low-efficient baseline cookstoves are getting replaced by the ICS distributed as part of this project.

Compared to conventional cookstoves, these stoves are more efficient. The stoves' innovative air-induction technology improves the combustion of Fuel and thus greatly lowers the generation of smoke and fuel consumption.

The project activity enables household-level access to sustainable development by, distributing, installing, and maintaining fuel-efficient ICSs in India. In the current monitoring period (16th June 2022 to 30th Sept 2022) 234,114 numbers of ICS have been distributed within the project boundary. The project aligns with and will contribute to sustainable development objectives outlined below in Table 1: Summary of SDG Contributions.

Table 1: Summary of SDG Contributions				
	SDG Goal Addressed	Target beneficiary	Impact in the current monitoring period	Impact envisaged through the project's lifetime
Economic Well Being	SDG 1	End users receiving project stoves	234,114 households	0.5 million households
	SDG 8	Employees hired during various stages of project	415 people got hired with a male: female ratio of 335:80	500 numbers of men & women

		implementation & operation.		
Social well Being	SDG 4	Staff receiving non-formal education & training	415 numbers of men & women	500 numbers of men & women
	SDG 5	Women and girls	234,114 women who are primary cooks in 234,114 households	0.5 million women who are primary cooks in 0.5 million households
	SDG 7	End-user households	234,114 project beneficiary households got access to clean technology which they would not have been able to afford.	0.5 million project beneficiary households will have access to clean technology that they would not have been able to afford.
Environmental well being	SDG 3	End-user households with a focus on women who are primary cooks	234,114 households are experiencing reduced indoor air pollution.	0.5 million households are expected to experience reduced indoor air pollution.
	SDG 13	Natural Capital	In the current monitoring period, the project has contributed to GHG emission reduction through a reduction of 148,372 tCO ₂ e by replacing 234,114 baseline stoves with ICS.	Avoid emissions to the tune of ~38 tCO ₂ e per stove over the 7 years of the first crediting period.
	SDG 15	Natural Capital	The project has contributed to a reduction in the	Avoid the removal of approximately 3.4 tons of woody

			removal of woody biomass to the tune of ~3.1 tons/stove current monitoring period, from forests surrounding the communities thereby leading to an increase in above-ground biomass in these forests.	biomass per stove per year over the 7 years of the first crediting period, from forests surrounding the communities.
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The aims of this project activity are,

1. Reduction of demand for woody biomass as fuel,
2. Slowing down local deforestation,
3. Reduction of the drudgery of collecting wood fuel– performed mainly by women and children,
4. Reduction of time spent on cooking over open fires resulting in extended exposure to toxic smoke,
5. Increasing time spent on improving quality of life i.e., through economic endeavours and knowledge dissemination,
6. Improving health status through reduced exposure to household air pollutants (HAPs).

Summary of objectives listing goal to claim for SDG labels and further corresponding evidence of the project activity are as follows:

1. Economic Wellbeing

The project will provide access to basic services, i.e., modern energy in the form of clean cooking alternatives to the rural and peri-urban communities of India. The project will lead to a distribution of 0.5 million energy-efficient ICS throughout its lifetime. Thus, the project will achieve:

- (i) **SDG GOAL 1:** ICS will provide clean energy which is a basic service necessary to lead a healthy and productive life, including saving time and money at the household level (1.4)¹

Further, the project will result in generating employment opportunities, both long-term as well as short-term, for the local individuals in the six states of India. Long-term employment under the

¹ Applies to employment of individuals who were absent from the formal sector and previously lived near, at, or below the international poverty level.

project refers to engaging individuals for at least six months while short-term refers to an engagement of a minimum of 1 week.

- (ii) **SDG GOAL 8:** Contracting of individuals on a full-time and part-time basis with a focus on hiring local people and women (8.3)².

2. Social Wellbeing

The project is envisaged to improve the overall social well-being within the project implementation area by yielding human health benefits, increasing awareness levels, reducing gender inequality, and providing access to clean cooking technology to economically weaker sections of society that do not have affordability and access to this technology. Each of the benefits aligned with the respective SDG has been explained in the following points:

The projects will address SDG 3, SDG 4, SDG 5, and SDG 7 in the following ways:

- **SDG Goal 3:** Reduced emission of fine particulate matter (PM_{2.5}) resulting in lowering of household air pollution due to the use of the ICS, improving well-being for women and children (3.9)³. Apart from improving the health of women, the stoves also
 - reduce accidental burns in infants and children due to its design comprising of a closed combustion chamber and stable base (3.0).
 - Reduce consumption of poorly prepared foods and increase the ability for more efficient water boiling for consumption (3.0)
- **SDG GOAL 4:** Contribute to increasing vocational and relevant skills of local individuals by introducing them to issues related to climate change, and bringing awareness about the importance of sustainable development, health, nutrition, and well-being, through formal and informal training which will enhance their avenues for getting decent jobs and employment opportunities (4.4).

The employed individuals will be provided with regular training to enhance their vocational skills related to various aspects of project implementation and monitoring which would increase their employability and chances of getting long-term employment even after the completion of the project. The field executive officer will be specifically trained in stove operation and GHG awareness.

- **SDG Goal 5:** Usage of ICS will reduce women's and children's drudgery through time savings by reducing time spent cutting, collecting, and carrying firewood from trees far removed from households and reducing time spent cooking over toxic smoky open fires. These tasks are a major cause of gender inequality in rural communities of India which

² Applies to employment of staff at full and productive levels with decent work for all, specifically in non-agriculture employment with equal pay for work of equal value across sexes – the ethos of SDG 8.

³ <https://www.sciencedirect.com/science/article/pii/S0160412018324772>

will be addressed by the project activities by providing the women and children opportunities to involve in more productive activities (5.4)⁴.

By switching to fuel in small, twig-sized pieces of woody biomass, women, and girls save time collecting, cutting, and carrying heavy wood over long distances. Also, as the ICS burns at a higher temperature, with less fuel used, due to the combustion chamber and stove design, cooking the day's meal takes approximately an hour less than it would take to cook the same meal with the baseline stove.

Children, particularly girls, are frequently kept at home to support household chores, like cooking and collecting firewood, estimated on average to be 10 hours per week, with an ICS more time can be dedicated to education – attending school and studying.

- **SDG Goal 7:** The primary activity under the project is the distribution of ICSs free of cost to six states of the Indian population that are predominantly reliant on wood fuel-based basic stoves for meeting their cooking need and are unable to afford improved cookstoves. Being a clean cooking technology, ICS provides an essential tool to address energy poverty and ensure sustainable energy security in approximately 0.50 million households in India during the project lifecycle, the project will generate an overall positive impact on the community.

3. Environmental Wellbeing

The distribution of ICSs is expected to reduce fuelwood consumption for cooking purposes which will not only reduce the amount of GHG emissions being released into the atmosphere but also reduce the burden on forest ecosystems in and around the project area. Thus, the project will contribute to SDG 13 and SDG 15 in the following ways:

- (i) **Goal 13:** Reduce carbon emissions by approximately 38 tCO₂e per stove in the first crediting period (13.0)
- (ii) **Goal 15:** Reduce deforestation and degradation by up to 24 tons, per stove, in the first crediting period (15.3). Forest, observed as a public place is often used for the collection of fuelwoods, which significantly contributes to deforestation and degradation. The distribution of the ICSs will reduce fuelwood consumption and hence reduce the pressure on the forests. Due to ICS's efficiency and widespread community use, there will be a reduction in firewood cutting from live trees resulting in better management of protected areas.

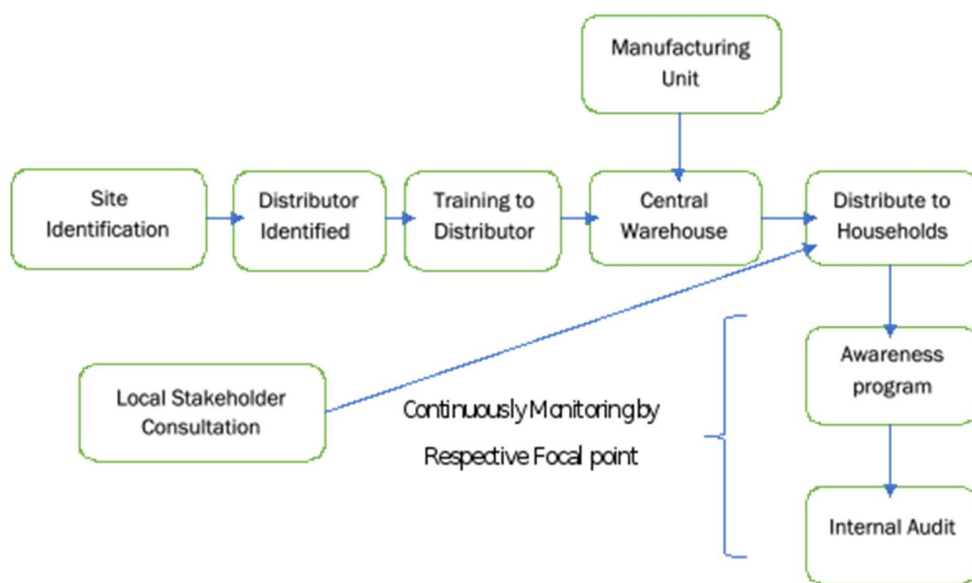
2.1.2 Description of the Project Activity

The project involves the distribution of fuel-efficient improved cookstoves (ICS) to replace the baseline traditional cookstoves in households.

⁴ <https://www.nature.com/articles/s41599-020-0488-2>

The ICS deployed under this project is energy-efficient which substantially reduces fuel consumption and emissions for conducting cooking activities in homes. The ICS improves the efficiency of combustion and thermal transfer to the pot compared with traditional pot support or three-stone fire by incorporating energy-efficient technology which provides a conducive environment for clean and efficient combustion of wood. It substantially reduces wood fuel consumption compared with a less efficient three-stone fire or traditional pot support.

EKI has procured the ICSs from the manufacturer and provided the same to the distribution agency at a central point near the distribution area. The distribution agency has trained its teams for the distribution and registration process. Further, the distribution teams have distributed the stoves to the end users. The distribution teams have educated the end-user on the proper use of the ICS, its benefits for the user, and how it improves the environment. Additionally, EKI is also conducting regular training programs and field visits for ensuring continual communication with the local stakeholders. Furthermore, in case of any support for repair/maintenance of the stove, the end-user can contact the support team using the customer support number available on the box of ICS.



Cookstove Flow Chart

For the implementation of the improved stoves, EKI has identified the potential location where the majority of the population was using the traditional mud and/or three-stone fuelwood fire stoves. Based on previous experience in other projects, available information, or baseline survey, ICS implementation was planned. EKI prioritized the appointment of a local implementation partner for the delivery of ICS and local men's and women's teams contracted and trained for the implementation of ICS. This boosts local employment and the income of local people. Awareness about the implementation and use of the ICS has been provided to the local community through awareness programs. EKI has conducted the distribution of ICS door-to-door or by selecting a

dedicated central point accessible to the intended user. EKI has deployed a team to train end users for the proper use of ICS and to educate users about the benefits towards climate due to the use of ICS. The team ensures the proper functioning of ICS and takes feedback from users about ICS and addresses their concerns.

The ICS deployed under the grouped project activity are the portable cookstove manufactured by GHG Reduction Technologies Pvt LTD., having thermal efficiency of includes more than 25% (as per applied methodology VMR 0006).

Technical Specifications of cookstoves distributed under the project activity instance to date are as below:

GHG Reduction Technologies Pvt LTD. is ISO 9001:2015 Certified Organization. They have ample experience in metal fabrication along with in-house testing and assembly facility and have strategic tie-ups with tool room and powder coating setups.

TECHNICAL DETAILS			
A)	Cookstove Type/Category	AGNEEKAA ECO MINI STOVE MODEL4 SE	
		Natural Draft	
B)	Secondary Air Supply	Through Natural Draft	
C)	Stove Material Used	Body	Galvanized Iron Sheet
		Body Material Thickness	0.6mm
		Combustion Chamber	Stainless Steel SS 202 grade
		Combustion Chamber Material Thickness	1 mm SS 202/201 2B grade
		Insulating Material	Ceramic Thermal Wool
		Insulating Material Thickness	6 to 8mm
		Top Plate	Stainless Steel SS 202/201 Mat/ Mirror grade
		Top Plate Material Thickness	1 mm
D)	Physical Structure	External Dimension	Length: - 260mm
			Width: - 260mm
			Height: - 248mm

		Combustion Chamber Dimension	Diameter: - 125mm
E)	Grate Thickness	2 mm Material HR sheet	
F)	Wight Of the Stove	3.36 Kg	
G)	Type of Fuel Wood	Firewood 30 to 50 mm diameter	
H)	Feeding Process	Continuous Feeding Front Loading	
I)	The expected life of the stove	7 Years	
J)	Guarantee /Warranty Period	1 Year	
K)	Box Dimension	Outer Side Box Dimension	Length: - 300mm
			Width: - 300mm
			Height: - 270mm
L)	Thermal Efficiency	36.42% Thermal efficiency is determined by the Indian Institute of Technology Delhi	

The above specifications have been considered for the actual ER calculation of the project activity instances in this monitoring report (MR).

The thermal efficiency of the implemented cookstove was tested at the manufacturer's end as per BIS protocols IS: 13152: 2013. Further, continuous research and development activities are being conducted by the manufacturer to improve the efficiency, quality, and design of the stove, by incorporating feedback from end users through routine follow-ups and site visits. EKI may adopt the modified stove models with improves efficiency for future distribution under the current grouped project activity. This will be transparently reflected during subsequent verifications and the details and specifications of respective cookstoves will be considered for ER calculation of project activity instance.

Data collection of ICS end-user

ICS distribution agency is responsible for stove distribution and data collection. The distribution agency follows an SOP designed by EKI for stove distribution and registration. The ICS registration process was carried out by manual recording process or using ICT (e.g., using a mobile app). The distribution team gets training that includes a brief introduction to the project activity, the objective of the distribution of ICS as well as ICS distribution and data collection process.

The project proponent gathered the necessary information to identify households using its ICS during the course of the project. To facilitate this process, each ICS has been assigned a unique

serial number. This number has been recorded during the registration process together with the following information (as appropriate and as available):

- Name of ICS user or head of the household
- Address/ Village name of ICS household
- Stove model Distributed
- Date of distribution/installation
- ICS serial number
- Retailer/distributor/Manufacturer information

The information collected has been stored in hard copies and/or electronic database excel sheets which serve as a project database for project monitoring and sampling purposes.

2.1.3 Implementation Schedule

Date	Milestone(s) in the Project's Development and Implementation
15 th April 2022	Listing of VCS PD on VERRA
12 th May 2022	Local Stakeholder Meeting held in Rata, Valsad, Gujarat
08 th June 2022	Local Stakeholder Meeting held in Raude, Nashik, Maharashtra
11 th June 2022	Local Stakeholder Meeting held in Atari, Chattisgarh, Raipur, Chattisgarh
16 th June 2022	Project Start date: Project Activities commence with ICS installations
05 th July 2022	Local Stakeholder Meeting held in Nalcha, Dhar, Madhya Pradesh
17 th July 2022	Local Stakeholder Meeting held in Ajitsar, Churu, Rajasthan
17 th July 2022	Local Stakeholder Meeting held in Jakhali gram panchayat, Nagour, Rajasthan
16 th August 2022	Local Stakeholder Meeting held in Pander, Bhilwara, Rajasthan
17 th August 2022	Local Stakeholder Meeting held in Bhavan, Tonk, Rajasthan
22 nd August 2022	Local Stakeholder Meeting held in Bari Jana, Begusarai, Bihar
12 th September 2022	Local Stakeholder Meeting held in Chandan, Panchayati, Raj Bhawan Chandan, Banka, Bihar
13 th September 2022	Local Stakeholder Meeting held in Chakai, Ghatigari, Jamui, Bihar
06 th to 15 th November 2022	Monitoring survey conducted for the first monitoring period
20 th December 2022	PP applies for VERRA's Sustainable Development Verified Impact Standard (SD VISTa) SDG labeling.

2.1.4 Project Proponent

Organization Name	Vitol Asia Pte Ltd
Role in the Project	Project Proponent
Contact Person	Jonathan Gan
Title	-
Address	260 Orchard Road, #15-02, The Heerlen, Singapore 238855
Telephone	+6583634622
Email	JGA@Vitol.com

Organization Name	EKI Energy Services Limited
Role in the Project	Project Proponent
Contact Person	Manish Dabkara
Title	Managing Director & Chief Executive Officer
Address	Office No 201, Plot No 48, Scheme 78, Vijay Nagar Part- II, Indore 452010, India
Telephone	+91 99075 34900
Email	manish@enkingint.org and registry@enkingint.org

2.1.5 Other Entities Involved in the Project

Provide contact information and roles/responsibilities for any entities involved in the development of the project. Copy and paste the table as needed.

Organization Name	GHG Reduction Technologies Pvt LTD
Role in the Project	Manufacturer of ICS
Contact Person	Soumitra Kulkarni
Title	Director
Address	A-11/2/3, Nagargoje Industries PVT LTD, Summet Compound Ambad, Nashik Maharashtra – 422010
Telephone	+91 982287213

Email

Soumitra.kulkarni@enkingint.org

2.1.6 Project Location

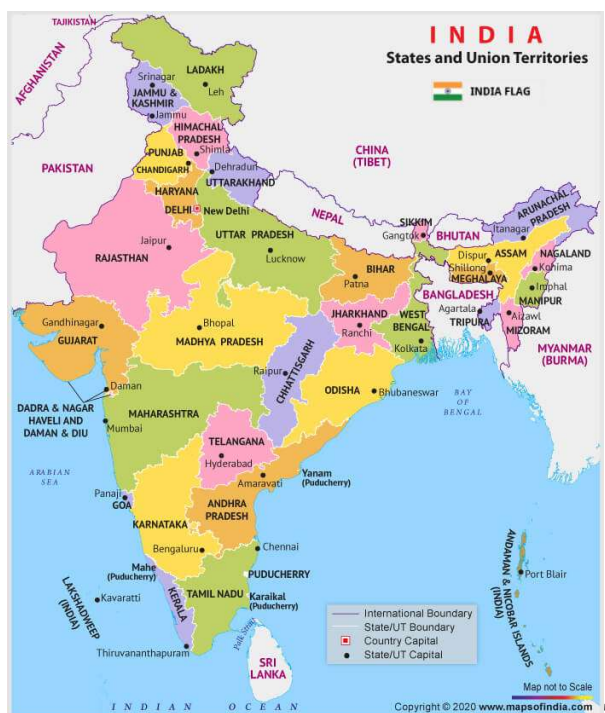
All the project activity instances in the proposed grouped project activity have been located within the geographical boundaries of India.

For the initial project activity instance, the geographical area is in Maharashtra, Chhattisgarh, Gujarat, Madhya Pradesh, Rajasthan and Bihar states of India.

The geographical boundary for projects located in India is delineated in the form of extreme geographic coordinates of India as follows:

Latitude - 8° 44' to 37° 6' N

Longitude - 68° 7' to 97° 25' E



2.1.7 Project Description Deviations

No project description deviations were applied during this monitoring period.

2.1.8 Threats to the Project

⁵ India Map | Free Map of India With States, UTs and Capital Cities to Download (mapsofindia.com)

Human-induced risks and natural-induced threats are the two types of potential threats to the project activity. This section explains the potential hazards and measures that the PP will take to neutralize these threats to ensure the project activity's smooth implementation.

Human-Induced Threat:

Threat 01:

The perception of a larger fire as superior limits the acceptance of upgraded cookstoves, and it is typically challenging for people to modify their behaviours.

Solution:

To convey the advantages of the cookstoves in local languages and from their cultural viewpoints, the project's proponent has conducted an awareness drive in distribution areas.

Threat 02:

Due to budgetary limitations, many households cannot buy the new ICS.

Solution:

Project's proponent has distributed the ICSs free of cost.

Threat 03:

Stove users' lack of upkeep of the stove results in either malfunctioning of the stove as designed or lack of stove use.

Solution:

To find problems with stove maintenance, PP mandates that its Distribution Partners (DPs) hire, train, and supervise its employees to visit each household to inspect the stoves once a year. This reduced the threat listed above. Additionally, PP local staffs perform spot checks or sample size reviews to identify lapses in stove upkeep. Moreover, each stove has unique identification (I.D.) number and QR code embossed on the metal plate and attached with each ICS for proper identification and all users are registered on a mobile-based app. As soon as users found any problem with the ICS, they can call on the helpline number, given in the ID card provided with the ICS. They will be located easily by the I.D. of the ICS and the local DP will address the problem immediately.

Threat 04:

Failure of behaviour change results in high levels of non-adoption.

Solution:

Research outcomes, whether formal or informal, are included in future training and community sensitizations to continue to positively, shape knowledge, enhance positive peer-to-peer influence, follow-up visits by the Implementing partner (once a year), and increase women's sense of empowerment, feeding into social cognitive theory on identity and self-belief.

Threat 05:

Carbon-financed stove distribution is not shown to have an increased impact on household uptake.

Solution:

Co-benefits like time savings and increased health advantages (reduced morbidity/mortality from HAP and decreased acute respiratory disease for mothers and children) are connected with the adoption of ICS work as key motivations for increasing the uptake of the stoves. PP's training emphasizes that, while ICS is offered free of charge, variables such as time savings, health advantages, and so on are essential in large-scale adoption. Furthermore, raising knowledge about the benefits of cooking with ICS is being utilized to combat this menace.

Project Proponent (PP) has discussed project benefits with the stakeholders during all stages of the project implementation:

Before distribution – PP's representatives discussed the project benefits with the district and Village level authorities.

During distribution – Distribution Partner provides a detailed presentation to the end-users on stove performance, how to use the stoves, its benefits, carbon waiver agreement, etc. PP uses project flyers and pictorial illustrations to educate the end-users on project benefits.

Post distribution - Distribution Partner follow-up visits each household once a year to ensure the proper usage of project cookstoves and to explain to the beneficiaries regarding the cookstove maintenance, best practices, and health benefit.

Nature-Induced Threats

Threat 01:

Climate crisis-induced displacement/migration (shock-related drought or flood) causes households to change their location.

Solution:

The ICS installed under the project are a portable type of stove that can be easily transported. This technology can travel easily with the household in their migration and can be installed and used at a new location by the end user. Additionally, the end users are given the necessary training and information for stove maintenance should it become necessary.

Threat 02:

Continued deforestation and degradation make firewood an untenable source of biomass.

Solution:

Although greater scarcity would encourage the use of the ICS, there is a chance that as the population grows, there will come a time when firewood is no longer a viable source. Although future ICS households might not be able to afford or access contemporary fuels, this will increase

their reliance on biomass cooking. The ICS that PP is distributing is made to use crop leftovers and small branches and twigs as a nearby source of regenerative biomass.

2.1.9 Benefit Permanence

By distributing improved cookstoves (ICS), which allow households to reduce their fuel consumption, save time cooking, improve their health by reducing indoor air pollution, and increase employment opportunities available to them, the project activity aims to change the cooking habits of households. Due to the advantages associated with improved cookstoves, it is guaranteed that both rural and urban households will continue to use them beyond project completion. This will result in considerable environmental and socioeconomic benefits. The project activity also guarantees that the benefits are long-lasting and cannot be undone until the project's devices are operational.

2.2 Stakeholder Engagement

2.2.1 Stakeholder Consultation and Adaptive Management

Describe how communication and consultation about the project and its impacts have continued between the project proponent(s) and identified stakeholder groups, with special attention paid to marginalized and/or vulnerable groups. Explain the processes used throughout this monitoring period to solicit and consider stakeholder input and adapt management accordingly.

Where different communication and consultation channels were required for different stakeholder groups, describe the implementation status of each.

Consultations with local stakeholders are essential steps in implementing a project. Different stakeholders participated in interactive training and demonstration sessions led by the project proponent and Distribution Partners. These sessions gave the participants details on the benefits of improved cookstoves, the advantages for the environment and human health, how to use ICS, and maintenance. PP welcomed any inquiries about stoves from the stakeholders throughout the consultation. The villages were identified and village representatives like village heads, sarpanch were taken the survey. For the proposed project activity, household owners (end users), village heads, distributors, and their representatives are relevant main local stakeholders. The public notice was placed in common places in villages and village heads were invited telephonically to consult their feedback.

The details of the Stakeholder Meetings are as follows:

Date of invitation – 02/09/2022

Date of Meeting – 13/09/2022

Location of Meeting – Chakai, Ghatigari, Jamui, Bihar

Date of invitation – 06/08/2022

Date of Meeting – 12/09/2022

Location of Meeting – Chandan, Panchayati, Raj Bhawan Chandan, Banka, Bihar

Date of invitation – 25/07/2022

Date of Meeting – 22/08/2022

Location of Meeting – Bari Jana, Begusarai, Bihar

Date of Invitation – 15/06/2022

Date of Meeting – 05/07/2022

Location of Meeting – Nalcha, Dhar, Madhya Pradesh

Date of Invitation – 06/05/2022

Date of Meeting – 11/06/2022

Location of Meeting – Atari, Chattisgarh, Raipur, Chattisgarh

Date of Invitation – 20/05/2022

Date of Meeting – 08/06/2022

Location of Meeting – Raude, Nashik, Maharashtra

Date of Invitation – 12/04/2022

Date of Meeting – 12/05/2022

Location of Meeting – Rata, Valsad, Gujarat

Date of Invitation – 21/07/2022

Date of Meeting – 16/08/2022

Location of Meeting – Pander, Bhilwara, Rajasthan

Date of Invitation – 21/07/2022

Date of Meeting – 17/07/2022

Location of Meeting – Ajitsar, Churu, Rajasthan

Date of Invitation – 20/07/2022

Date of Meeting – 17/07/2022

Location of Meeting – Jakhali gram panchayat, Nagour, Rajasthan

Date of Invitation – 19/07/2022

Date of Meeting – 17/08/2022

Location of Meeting – Bhavan, Tonk, Rajasthan

In all the stakeholder meetings, the representative of PP welcomed the gathering and gave a brief about the climate mitigation project activity. After the introductory speech, stakeholders explained the purpose of distribution of highly efficient cookstoves which will burn wood more efficiently thereby improving thermal transfer to pots, hence saving fuel. The project also reduces the rapidly progressing deforestation but will also reduce health hazards from indoor smoke pollution and women and children will have to spend less time collecting contributing to a reduction in GHG emissions. The Project will also assist the local population by providing employment opportunities to both skilled & unskilled labours.

The Minutes of the meeting with stakeholders' queries and invitation letter will be submitted to the DOE.

The meeting started with an opening speech by a representative of the project participant. He introduced all guests to the dais. The representative of the project participant explained the technical aspects of the project to the stakeholders. He also explained the social, environmental & economic benefits of the project. He also elaborated on the carbon mechanism & its requirement for the current project. After the detailed discussions, the session was open to questions from stakeholders. Most of the questions were related to employment opportunities, economic development, benefits from the project to villagers and other development activities. The questions raised by the villagers are summarised below:

Q: Does this cookstove run on electricity?

A: No, the cookstove is not run on electricity it runs only on wood blocks, shreds, etc.

Q: What is wood consumption?

A: The wood consumption of traditional cookstoves is high but it will reduce by 60% less than traditional cookstoves.

Q: Does it make smoke?

A: No, this cookstove does not produce any kind of smoke.

Q: Can we use it easily?

A: Yes, you can use this cookstove very easily.

Q: How to light this stove with kerosene or paper?

A: You don't need kerosene or any other fuel to light this cookstove.

Q: Why it does not make smoke?

A: This cookstove is scientifically made so it uses oxygen properly and it doesn't make any smoke.

Q: Can we carry it during travel?

A: No, you can't carry it on travel.

Q: If we touch the cookstove steel will it burn our hand or not?

A: Yes, it will burn your hand but the handle will not.

Q: Can we wash it?

A: No, you can't wash it.

The stakeholders are satisfied due to the health and environmental benefits and there are no negative comments from stakeholders.

As a part of ongoing communication with local stakeholders, they are also informed about the grievance register. If any concerns are received during the operation of the project activity, the same will be addressed if relevant to the project activity. There were no grievances received during the current monitoring period.

Continued Consultation and Adaptive Management

As a part of ongoing communication with local stakeholders, end users are being provided with an ID Card which is having a helpline number for registering grievances. The field survey team will also have the responsibility to take grievances regarding the project activity during the field survey and the same will be conveyed to PP during the operation of the project activity. Thus, ongoing communication of stakeholders will be followed through a grievance mechanism. If any concerns are received during the operation of the project activity, the same will be addressed if relevant to the project activity.

Every direct stakeholder, including local leaders, shall have their comments taken into account as soon as possible and as needed. Women and other direct users of cookstoves were continuously consulted during the design of the ICS, and this practice of soliciting user input will continue. If a meeting is necessary to discuss potential remedies in the event of any complaints, it will be set up as soon as possible. Users will receive advance invitations to all such meetings on their registered phone numbers, and there will also be a public announcement in the neighbourhood village panchayat office.

Also, meetings will be held in each zone by local women who are employed as field executive officers and resource persons to discuss and collect feedback on the improved cookstoves. The project's promoter will make an effort to start a comprehensive transformation in the socioeconomic circumstances of the surrounding districts. Although changing cookstoves may seem like a minor concern, PP's social surveys have shown how closely cookstoves are related to other socio-economic problems. The project's supporters will follow the sustainable development goals for India throughout its existence as a guide to community involvement and community welfare. The project activities will include community development initiatives.

PP also collects feedback from beneficiaries through various methods throughout the project life, ranging from informal meetings to more formal local stakeholder consultations, and additional channels of surveys that include questions specifically about ICS use and uptake to ensure ongoing progress and feedback from stakeholders, particularly the beneficiaries, and future beneficiaries.

2.2.2 Anti-Discrimination

The project activity does not endorse sexual harassment or discrimination based on a person's gender, sexual orientation, or other characteristics. All willing customers inside the project boundary have received ICS. Women got benefitted from the project because they are now spending less time for cooking or getting fuel and because they are also able to cook in a cleaner environment.

2.2.3 Worker Training

The EKIESL distribution team is continuously being educated and trained on equipment maintenance and handling safety through ongoing processes. The training assists the workers chosen from the local communities in expanding their knowledge and developing new skills. The annual review procedure also aims to determine the expansion of knowledge and comprehension that the employee has acquired throughout the working period.

2.2.4 Equal Work Opportunities

The Project activity has an equal opportunity for women, men, or any vulnerable/marginalized community by taking into consideration of the country's law and regulations to contribute both in volunteer and working positions. Additionally, EKIESL has a predetermined HR policy that considers participation by all demographic groups. Furthermore, all genders, nationalities, ethnicities, races, and religions are equally welcome to participate in the projects as they are implemented.

2.2.5 Workers' Rights

Per the International Labour Organization's (ILO) 6 Core Labour Conventions, EKIESL upholds and supports the abolition of all forms of forced or compulsory labour, the minimum age convention, the right to organize, and the abolition of discrimination regarding paid employment and occupations.

⁶ The ILO Core Labour conventions are the [Forced Labour Convention](#), 1930 (No. 29), [Freedom of Association and Protection of the Right to Organise Convention](#), 1948 (No. 87), [Right to Organise and Collective Bargaining Convention](#), 1949 (No. 98), [Equal Remuneration Convention](#), 1951 (No. 100), [Abolition of Forced Labour Convention](#), 1957 (No. 105), [Discrimination \(Employment and Occupation\) Convention](#), 1958 (No. 111), [Minimum Age Convention](#), 1973 (No. 138) and the [Worst Forms of Child Labour Convention](#), 1999 (No. 182).

Every single one of PP's employees is covered by a contract that outlines their duties and rights. A variety of labour laws exist in India as well, including those that forbid discrimination and child labour, ensure fair and humane working conditions, offer social security, a minimum salary, and the freedom to organise, establish unions, and enforce collective bargaining. India also has several strict laws governing layoffs and retrenchments of employees, as well as requirements for government clearance of any change in employee status in a company, regardless of whether the reason is related to the state of the economy. Additionally, India has ratified six ILO conventions. They are as follows:

- Abolition of Forced Labour Convention (No. 105)
- Forced Labour Convention (No. 29)
- Equal Remuneration Convention (No. 100)
- Minimum age Convention (No. 138)
- Discrimination (employment occupation) Convention (No. 111)
- Worst Forms of Child Labour Convention (No. 182)

2.2.6 Occupational Safety Assessment

Provide an assessment of substantial risks to worker safety that have arisen due to project implementation. Describe activities and/or processes implemented to inform workers of risks and how to minimize such risks. Demonstrate how risks are minimized.

All pertinent regional regulations are followed by the project. The Project has no detrimental effects on the community's or the employees' health.

According to the National Policy on Safety, Health, and Environment at Workplace, ICS manufacturer takes appropriate mitigating measures, such as providing the necessary tools, such as safety shoes, gloves, and eyewear, to protect the health and safety of the workers. Additionally, the project's proponent makes sure that all employees receive ongoing instruction in occupational safety.

There are no unusual risks associated with the project activity. Road accidents or minor social conflicts during delivery and demonstration operations could pose risks. By educating employees about potential risks, providing them with best practices training, and providing suitable tools and equipment, risks have been reduced. These risks have been discussed verbally with the workers throughout their initial training, orientation, and refresher training sessions. According to the National Policy on Safety, Health, and Environment at Workplace, ICS manufacturer takes appropriate mitigating measures, such as providing the necessary tools, such as safety shoes, gloves, and eyewear, to protect the health and safety of the workers. When undertaking field activities, first aid and medical kits are also been provided.

2.2.7 Feedback and Grievance Redress Procedure

During the stakeholder meeting, all parties are informed of the contact information for the grievance redressal process. Additionally, this information is printed on each ICS's ID card that is given to end users.

2.2.8 Stakeholder Access to Project Documentation

After the project's details were disclosed, stakeholders were questioned about any project-related concerns. Stakeholders have been informed that the project papers are hosted on the VERRA website. During the stakeholder interaction, information about the project was also provided to them. At the time of local stakeholder consultation, a project summary was displayed on the panchayat notice boards in every village.

2.2.9 Information to Stakeholders on Assessment Process

Stakeholders in the area were fully informed of the registration procedure for the GHG as well as SD VISTA programme during the stakeholder consultation. Additionally, when VVB evaluates them during validation and verification, they will learn more knowledge. Additionally, users were questioned as part of surveys designed to collect data for tracking cookstove usage and their benefits to provide the information for monitoring parameters.

To better their respiratory health, the family economy, and the environment, PP informs their beneficiaries and their families that they are taking part in an initiative that distributes the ICS at no cost. They also advise them on the importance of tracking their achievements and keeping an eye on important information, such as money spent on wood fuel and other economic factors.

2.3 Project Management

2.3.1 Avoidance of Corruption

The PP has policies in place to inform management and employees about the avoidance of corruption, code of conduct, and business ethics. These policies are applied by all project staff, including company management to ensure that the organization is run following all legal requirements and is held to the highest standards of operation.

2.3.2 Recognition of Property Rights

Since no property is required for the project activity, which is distributing better cookstoves to specific families, there is no impact on any property rights.

2.3.3 Free, Prior and Informed Consent

Since no property is required for the project activity, this is "Not Applicable".

2.3.4 Restitution and/or Compensation for Affected Resources

The project activity entails distributing upgraded cookstoves to certain families; it will not affect access to any resources and won't have any negative effects.

2.3.5 Property Rights Removal/Relocation of Property Rights Holders

As the project activity does not involve any property right removal/relocation of property rights holders.

2.3.6 Identification of Illegal Activities

The project participant is continuously monitoring and keeping track of the ICS distribution, and no unlawful acts have been discovered throughout project implementation or operation so far.

2.3.7 Ongoing Conflicts or Disputes

There is no ongoing conflict related to the planned project activity.

2.3.8 National and Local Laws and Regulations

PP adheres to subsequent local and national laws. There are no laws and regulations governing the use of improved cookstoves in Indian households. The project is a voluntary effort by the project proponent.

2.4 Grouped Projects

The project is a grouped project.

No.	Criterion	How the new project activity instances to comply	How each new project activity instance meets the eligibility criteria
1	Meet the applicability conditions set out in the methodology applied to the project	New project activity instances (Energy-efficient Cookstoves) will meet the applicability conditions set out in Section 3.2 of the VCS PD where the target of the end-user is household and the ICS deployed is at least 25% of thermal efficiency.	The project activity instances (Energy-efficient Cookstoves) implemented during the current monitoring period are meeting the applicability conditions set out in Section 3.2 of the VCS PD where the target of the end-user is household and the ICS deployed is having thermal efficiency of 34.23%.

2	Use the technologies or measures specified in the project description.	The technology used for the project activity is energy-efficient cookstoves. Only energy-efficient cookstoves are to be adopted in the project by replacing traditional cookstoves in households.	The technology used for the project activity instances under consideration for the current monitoring period is energy-efficient cookstoves, which are replacing the traditional cookstoves in households.
3	Apply the technologies or measures in the same manner as specified in the project description.	Only energy-efficient cookstoves are to be adopted in the project by replacing traditional cookstoves in households.	Only energy-efficient cookstoves have been adopted in the project during the current monitoring period by replacing traditional cookstoves in the household.
4	Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.	The new project activity instances will be installed within India subject to the same baseline scenario determined in Section 3.4 of the VCS PD as “continued use of non-renewable wood fuel (firewood/charcoal) or fossil fuel (coal/kerosene) by the target population to meet similar thermal energy needs as provided by the project cookstoves in absence of the project activity.”	In the current monitoring period, the project activity instances which have been installed within India are having same baseline scenario determined in Section 3.4 of the VCS PD as “continued use of non-renewable wood fuel by the target population to meet similar thermal energy needs as provided by the project cookstoves in absence of the project activity.”
5	Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area.	All new project activity instances will use the activity method for demonstration of additionality.	All new project activity instances use the activity method for demonstration of additionality. Step 1: Regulatory Surplus There is no mandated government programme or policy in the host

		Step 1: Regulatory Surplus There is no mandated government programme or policy in the host country of this project ensuring the distribution of new energy-efficient cookstoves for each project activity instance. Step 2: Positive List The inclusion of new project activity instances will comply with the positive list as it satisfies criterion 1 where it meets all the applicability conditions of the methodology.	country of this project ensuring the distribution of new energy-efficient cookstoves for each project activity instance. Step 2: Positive List The inclusion of new project activity instances will comply with the positive list as it satisfies criterion 1 where it meets all the applicability conditions of the methodology.
6	Where a capacity limit applies to a project activity included in the project, no project activity instance shall exceed such limit. Further, no single cluster of the project activity instances shall exceed the capacity limit, determined as follows: Each project activity instance that exceeds one percent of the capacity limit shall be identified. Such instances shall be divided into clusters,	No project activity instance shall exceed the applicable limit, which is 180 GWh_{th}/y. Since the project activity instances have the same model, hence expected annual energy saving for each instance is 0.0160 GWh_{th}/y which is 0.02% of the threshold limit. As the annual energy saving is below 1% of the limit, therefore no project activity instance	No project activity instance exceeded the applicable limit, which is 180 GWh_{th}/y. Since the project activity instances have the same model, hence annual energy saving for each instance is 0.0134 GWh_{th}/y which is 0.008% of the threshold limit. As the annual energy saving is below 1% of the limit, therefore no project activity instance is identified and divided into clusters.

	whereby each cluster is comprised of any system of instances such that each instance is within one kilometer of at least one other instance in the cluster. Instances that are not within one kilometer of any other instance shall not be assigned to clusters. None of the clusters shall exceed the capacity limit and no further project activity instances shall be added to the project that would cause any of the clusters to exceed the capacity limit.	is identified and divided into clusters.	
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3 BENEFITS FOR PEOPLE AND PROSPERITY

3.1 Impacts on Stakeholders

The impacts of the project activities on each stakeholder group for the current monitoring period, are as given below:

Impact #1	The portion of the population with primary reliance on clean fuels and technology
Type of Impact	Positive actual direct impact on ICS user household. The impact has been monitored as a “reduction in fuel required for cooking in households”.
Affected Stakeholder Group(s)	ICS users.
Resulting Change in Well-being	Distributed 234,114 number of high-efficiency, clean-burning ICSs which benefited over 0.9 million individuals (considering 4 heads on average/household) by reducing woody biomass consumption to the tune of ~3.1 tons/stove in the current monitoring period.

Impact #2	Reduced exposure to smoke, HAP and other dangers.
Type of Impact	Positive actual direct impact on ICS user household. The impact will be monitored as a “Reduction in PM2.5 emissions”.
Affected Stakeholder Group(s)	ICS users.
Resulting Change in Well-being	- Lowered risk of developing COPD or worsening COPD - 100% of the household reported lowered number of acute lower respiratory illnesses and a reduction of burn injuries due to contained flames. - Increased ability to consume safe drinking water by reducing boiling water time.

Impact #3	Training imparted on climate change, project implementation, and monitoring procedures.
Type of Impact	Positive actual direct impact on ICS. The impact will be monitored as "Average training manhour".
Affected Stakeholder Group(s)	Village community, Beneficiaries, Distribution Partner Staff
Resulting Change in Well-being	Training and skill development related to community engagement, survey conduction, and technical training has been provided to stakeholder groups which are envisaged to empower their lives by not only providing long-term employability but also through increased awareness levels regarding issues related to climate change, social equity.
Impact #4	Reduce Average time saving associated with cooking and fuel collection
Type of Impact	Positive actual direct impact on ICS user women. The impact will be monitored through a survey of "Average time spent on cooking and fuel collection"
Affected Stakeholder Group(s)	Beneficiaries (most notably, females, elderly, and children, primarily girls).
Resulting Change in Well-being	Females now have to spend less time on cooking using ICS which they are redirecting to income-generating activities or for relaxation. Contributing to enhanced conditions for gender equity.
Impact #5	Enhancing Job opportunity
Type of Impact	Positive actual direct impact on Distribution Partner staff. The impact will be monitored as "Informational employment generation".
Affected Stakeholder Group(s)	Local Citizens (Men & Women) – Staff of Manufacturing unit and Distribution Partners.
Resulting Change in Well-being	Helped in economic growth by creating 415 job opportunities in the current monitoring period by implementing the project activity. It has helped families to come above BPL.

Impact #6	Reduced fuel wood expenditure
Type of Impact	Positive actual direct impact on ICS user household. The impact will be monitored as a “reduction in fuel wood expenditure in households”.
Affected Stakeholder Group(s)	ICS users.
Resulting Change in Well-being	Money is being saved by those families that regularly purchase their wood fuel due to the reduction in yearly woody biomass consumption to the tune of ~3.1 tons/stove in the current monitoring period.

3.2 Stakeholder Impact Monitoring

This project is using the installation of improved cookstoves as an opportunity to create a net positive impact on the overall well-being of the people on the project site. Monitoring mechanisms are employed to ascertain the project’s impact on all major stakeholders. During the current monitoring period, the project has collected data through interviews, surveys, direct observations, group discussions, and other employment, financial, and health records. Village resource personnel and women monitors collected primary information through regular visits and interviews with the households. They are tasked with monitoring the changes after the installation of improved cookstoves. field executive officers conducted group discussions and other interviews regarding the same. The data from these interactions were then compiled into reports and forwarded to the senior analysts of EKIESL.

Also, as a part of ongoing communication with local stakeholders, end users are being provided with an ID Card which is having a helpline number for registering grievances. The field survey team has the responsibility to take grievances regarding the project activity during the field survey and the same is being conveyed to PP during the operation of the project activity. If any concerns are received during the operation of the project activity, the same is being addressed if relevant to the project activity.

3.3 Net Positive Stakeholder Well-being Impacts

All of the impacts identified generate a positive impact of the following combined, long-term sustainable development benefits for the project’s stakeholders:

- Those who formerly lived in homes without access to basic services now mainly depend on technology and clean fuels to prepare food. In the homes that got ICS, open cooking fires have been eliminated.
- Beneficiaries who were below the national poverty line now have a greater capacity to save money that would otherwise be spent on wood fuel, and/or time that would otherwise be spent collecting wood. Additionally, women who use ICS now spend less time cooking and instead use that time for leisure or activities that generate money.
- Beneficiaries who previously lived below the National poverty level are now better able to save money that would have been used to buy wood fuel and/or save time that would have been spent gathering wood. With the use of ICS, women are also devoting less time to cooking and more time to leisure or earning money-generating activities.
- As fewer people are now at risk of developing cardiovascular diseases, cancers, or chronic respiratory illnesses that are brought on by exposure to HAP, fewer people are now at risk of dying from exposure to household and ambient air pollution.
- Fewer pregnancies are now in danger of terminating early due to complications brought on by HAP exposure.
- The danger of young children under five falling into open cooking fires has decreased.
- Female beneficiaries now devote a smaller percentage of their time to unpaid caregiving and domestic labour.
- As a result of improved training and vocational abilities, residents are now more employable in the long run, which affects their general social and economic well-being.

4 BENEFITS FOR THE PLANET

4.1 Impacts on Natural Capital and Ecosystem Services

Impact #1	Progress towards sustainable forest management by increasing above-ground biomass in forests due to lesser demand for non-renewable woody biomass
Type of Impact	Positive, Actual, direct. Monitored through a survey of woody biomass consumption per ICS user household per month.
Affected Natural Capital and/or Ecosystem Service(s)	Biodiversity and Species Richness, Soil and Water Conservation.
Resulting Change in Condition	The project activity has lowered the use of wood fuel as a source of nonrenewable biomass for cooking. During the monitoring period less amount of non-renewable woody material has been used by households. Deforestation has been slowed by the ensuing drop in demand, increasing the share of renewable energy in the project area's total final energy usage.

Impact #2	Avoided emission of GHGs made possible by using ICS
Type of Impact	Positive, predicted, direct. Emission reduction has been calculated through monitoring of parameters as mentioned in section 5.2 of the published VCS PD on the VEERA website.
Affected Natural Capital and/or Ecosystem Service(s)	Biodiversity and Species Richness, Soil and Water Conservation.
Resulting Change in Condition	The project stoves require less firewood for producing the same amount of thermal energy, therefore, resulting in lesser CO ₂ emission into the atmosphere. As CO ₂ is a greenhouse gas, its reduced emission has a positive impact on climate change.

4.2 Natural Capital and Ecosystem Services Impact Monitoring

To determine the net ecological impact of the project, the project proponent has conducted regular monitoring in the project area. The following data will be recorded from the monitoring

activities - Survey the amount of natural firewood required by the project device in preparation of meals in a month and compare it against the amount of firewood required by the baseline device. This will enable an understanding of the positive impacts of the project device in meeting the thermal energy requirements of the project area. Data from the above monitoring activity will reflect the annual net forest area change rate.

4.3 Net Positive Natural Capital and Ecosystem Services Impacts

The project instances have reduced energy consumption in the form of woody biomass use during the present monitoring period by replacing inefficient traditional cookstoves with ICS technology, leading to net GHG reductions of 148,372 tCO₂e.