



DELAGUA CLEAN COOKING GROUPED PROJECT IN THE GAMBIA



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Project ID	4000
Monitoring period	01-November-2024 to 31-October-2025 (including both days)
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PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The grouped project involves dissemination of energy-efficient, improved cookstoves (ICS) to replace existing traditional cookstoves in domestic households of The Gambia. The baseline scenario prior to the implementation of the project activity consisted of the use of traditional wood-fueled cooking devices, primarily three-stone fire stoves or traditional wood stoves with no improved combustion air supply or flue gas ventilation, and without a grate or chimney.

The distribution of the project ICSs begun on 23-February-2023 under the PAI-1. This date is also the start date of the grouped project and the start date of crediting period for this project. Till the end of current monitoring period, total 76,088 ICSs have been distributed throughout The Gambia. During the current monitoring period, the project has achieved GHG emission reduction of 234,717 tCO₂e.

Technology/ Measures

The ICSs disseminated under the grouped project are based on a “rocket stove” and designed to improve fuel combustion and heat transfer. The project stoves improve heat transfer to cooking pots through the insulated walls and design of the stove top when compared to traditional cooking methods over open- and three-stone fires. The ICS results in the reduction of fuel consumption and improvement in levels of Indoor air pollution for project users (reducing smoke, black soot, and particulate matter (PM) emissions). The reduction in consumption of cooking fuel also reduces equivalent greenhouse gas (GHG) emissions attributed to the use of non-renewable biomass.

For the current monitoring period, the PAI-1 includes dissemination of Burn Kuniokoa G2 stoves, a tier 3 cooking devices with the following specification:

Name of the ICS	Kuniokoa Generation 2
Manufacturer	Burn
Type	Natural Draft
Material	Stainless Steel
Dimensions	32.1 cm Height, 28.2 cm Diameter
Thermal efficiency	With Pot skirt – 51.3%, Without pot skirt – 43.4%
Power Output	2.9 kW
Lifetime	10 Years
Photo	

1.2 Audit History

Audit type	Period	Program	Validation/verification body name	Number of years
Validation	23-February-2023-- 22-February-2030)	VCS	Carbon Check Pvt. Ltd.	1st Crediting Period (7 Years)
Verification	23-February-2023-- 31-December-2023)	VCS	Carbon Check Pvt. Ltd.	0.85 (311 days)
Verification	1-January-2024 – 31-October-2024	VCS	SustainCERT SA	0.833 Year (305 days)
Verification	1-November-2024 – 31-October-2025	VCS	LGAi Technology Center, S.A (Applus+)	One Year

1.3 Sectoral Scope and Project Type

Sectoral scope ¹	03 – Energy demand
Project activity type	Type II – Energy efficiency improvement projects

1.4 Project Proponent

Organization name	DelAgua Health The Gambia (Voluntary) Limited
Contact person	Rory McDougall
Title	Commercial and Finance Director
Address	DelAgua Health The Gambia (Voluntary) Limited Poinciana House, West Mall & Poinciana Drive, Freeport, The Bahamas
Telephone	+22 09977211
Email	vcsprojects@delagua.org

1.5 Other Entities Involved in the Project

There are no other entities involved in this project.

¹ Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>

1.6 Project Start Date

Project start date	23-February-2023
Justification	The start date is the commissioning of first ICS (project activity instance) under grouped project.

1.7 Project Crediting Period

Crediting period	☒ Seven years, twice renewable ☐ Ten years, fixed ☐ Other (state the selected crediting period and justify how it conforms with the VCS Program requirements)
Start and end date of first or fixed crediting period	23-February-2023 to 22-February-2030

1.8 Project Location

Host Country: The Gambia

Region : All regions of The Gambia

District/Village etc.: All Districts and Village in The Gambia

Physical/Geographical location:

The project boundary is the geographic borders of The Gambia. The project boundary for each Project Activity Instance is the physical, geographical location of the ICS distributed within the geographical boundaries of The Gambia.

Also, each individual distribution under the project technology will record the geographical coordinates (i.e. lat/long data) or beneficiaries' household address, which can be verified from the recorded data (monitoring surveys).

The KML file attached which indicate the geographical boundaries of the host country The Gambia and current PAI geographic area. The geo co-ordinates of the project location are 13.4432° N, 15.3101° W. The map of The Gambia, for reference purpose, is as follows:



Figure 1 Project Location

1.9 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	VM0050 ²	VM0050 - Energy efficiency and fuel-switch measures in cookstoves	1.0
Tool	CDM Tool:30 ³	TOOL30: Calculation of the fraction of non-renewable biomass	Version 4.0
Guideline	-	Guideline: Sampling and surveys for CDM project activities and programmes of activities	Version 4.0
Standard	-	Standard: Sampling and surveys for CDM project activities and programmes of activities	Version 9.0

² [VM0050-EE-and-Fuel-Switch-Measures-in-Cookstoves-v1.0.pdf](#)

³ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v4.0.pdf>

Protocol	KPT	Kitchen Performance Test (KPT) https://cleancooking.org/binary-data/DOCUMENT/file/000/000/604-1.pdf	4.0
Protocol	WBT	Water Boiling Test Protocol https://cleancooking.org/binary-data/DOCUMENT/file/000/000/399-1.pdf	4.2.3
Clarification/corrections	-	Correction And Clarifications To VM0050 Energy Efficiency And Fuel Switch Measures In Cookstoves, V1.0 Dated: 03 February 2025 https://verra.org/wp-content/uploads/2025/02/CC_VM0050_v1.0_Feb2025.pdf	-

1.10 Double Counting and Participation under Other GHG Programs

1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through the Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."

☐ Yes ☐ No

If yes to all:

Provide evidence of the public statement. Evidence must be provided in this section or in an appendix.

1.12 Sustainable Development Contributions

The grouped project activity involves dissemination of energy-efficient, improved cookstoves (ICS) to replace existing traditional cookstoves in domestic households in the Gambia. The GP is contributing towards sustainability, which is also verifiable through the SDG indicators selected for the specific activities that are going to be monitored for their fulfilment.

The grouped project has one project activity instance (PAI-1) till the end of this monitoring period. A summary of sustainable development contributions is provided in the following table:

- The project activity reduces the indoor air pollution levels to a significant level, thereby reducing the risks people face with the 3 stone fires or the traditional cooking devices. The

number of deaths among children per year accounted to the indoor household air pollution is high in The Gambia, and lack of quality health interventions at local level increase the risk further. The lower respiratory disease risk and improved indoor air quality reduces the mortality rates caused due to it.

- Women in The Gambia spend a significant amount of time every day to collect firewood. While using ICS, the less amount of fuel used for kitchen activities means that they must spend less time in the field collecting wood. This time saved by the women can now be used towards better management of household, or can be used towards any livelihood or income generating activity, e.g. farming, poultry, animal products, etc.
- The project activity distributes ICS to the individual households in host country The Gambia at free of cost, and this reduces their reliance on the firewood fuel usage. The project ICS models claim to reduce fuel usage by more than 50% than their baseline consumption. This save a significant amount of firewood fuel usage per household on daily basis, which consequently allows them to lead a healthy and less worried life.
- The project activity provides indirect employment to the distribution team and provides them with per diem for their services. These contractual workers support the distribution and act as the point of program's connectivity with the households. The project activity maintains permanent staff working from the management office located in the capital city of Gambia i.e., Banjul. Both contractual staff and permanent staff will be increased, based on the program's success. The workforce trains time to time, in order to meet the requirements of the monitoring data recorded at the time of project ICS distribution.
- The GHG emissions caused by the burning of firewood reduces by the usage of project ICS. The reduction in the firewood consumption compared with the baseline levels provide the amount of GHGs avoided, by application of VCS methodology VMR0050, ver. 1.0

Table 1: Sustainable Development Contributions

Row nu	SDG targ	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	1.4	1.4.1 Proportion of population living in households with access to basic services	Implemented activities to increase	Cooking is widely recognized as an essential service, given that food is a fundamental necessity for humans and other living beings. Therefore, improved access to cooking facilities is likewise deemed a basic need and essential. Given, the total number of ICS distributed under the grouped project is 76,088. Hence, 76,088 HHs receiving the project ICS now have access to basic cooking services.	Till the end of this monitoring period, 76,088 households now have access to basic cooking services when compared with the baseline.
2)	3.9	3.9.1 Mortality rate attributed to household and ambient air pollution	Implemented activities to decrease	Mortality rate attributed to HH and ambient pollution will decrease for those HHs using the DeLaqua improved cookstove. The improved design specifications of the project ICS model(s) ensure there is much less pollution in the households as compared to the baseline. The survey results demonstrate that 99.23% of households confirmed reductions in the smoke level. So, a total of 75,503 households now have less risk towards respiratory ailments due to smoke inside their homes due to the implementation of this project	Till the end of this monitoring period, 75,503 households now have less risk towards respiratory ailments due to smoke inside their homes due to the implementation of this project as compared to the baseline.

3)	5.4	5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age and location	Implemented activities to decrease	Survey results show 100% of respondents stating that they have reduced the amount of time spent in collecting wood. Hence, 76,088 Households have reduced their time spent in fuel collection and cooking activities.	Till the end of this monitoring period, a total of 76,088 households were positively affected.
4)	7.1	7.1.2: Proportion of population with primary reliance on clean fuels and technology	Implemented activities to increase	The number of HHs with access to clean cooking has been increased with the implementation of this grouped project. A total of 76,088 HHs have received the ICS under the grouped project. During the surveys, 100% of HHs confirmed usage of ICS. Thus, till the end of MP3, 76,088 distributed ICS are operational (i.e., These HHs have access to clean cooking when compared with the baseline).	Till the end of this monitoring period, 76,088 households now have access to clean cooking when compared with the baseline.
5)	8.3	8.3.1 Proportion of informal employment in total employment, by sector and sex	Implemented activities to increase	As part of the project activities (distribution and education campaign) DelAgua employs local community members. The implementation of the project so far has led to generation 12 permanent employment where 8 are males and 4 are females during this MP.	Till the end of MP3, a total of 13 permanent employment, 17 temporary employment and 528 community-based employment.

6)	12	12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	Implemented activities to increase	The project activity educates and trains the team involved in the distribution of ICS and educates the end user HHs about sustainable cooking practices and awareness on climate change impacts. With this, it can be said that the local population is learning sustainable practices and a healthy lifestyle without spending anything. The end users have been provided with training on how usage of improved cookstove contributes to sustainable development in host country. Total 76,088 households being under current monitoring period imparted with such awareness and knowledge. Thus, Total Number of HHs educated are 76,088.	Till the end of this monitoring period, 76,088 households were educated about stove usage and to apply sustainable cooking practices.
7)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	234,717 tCO2e have been reduced during the current monitoring period.	Till the end of this monitoring period, a total of 579,232 tCO2e emissions have been reduced by the project activity considering previous MP as well.

1.13 Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

The Stakeholder makeup has not changed since validation. Prior to the start of validation, PP conducted a comprehensive stakeholder consultation event as described in section 2.2 of registered VCS PD.

Stakeholder Identification	The primary stakeholders for the project are the recipients of the improved cookstoves i.e. rural households across the Gambia. Other stakeholders include project staff employed by DelAgua and the Ministry of Petroleum and Energy, which is responsible for promoting clean cooking within the Gambia. The Stakeholder makeup has not changed since validation, hence, this is not deemed applicable.
Legal or customary tenure/access rights	As the project is not a land use project, there are no legal or customary tenure issues or access rights that are impacted by the project.
Stakeholder diversity and changes over time	Refer section 2.1 of registered PD. No expected change has happened to the stakeholders' makeup
Expected changes in well-being	Household air pollution (HAP) due to use of inefficient cookstoves is well documented to cause long-term ailments and deaths across the world. Distribution of efficient cookstoves would reduce release of harmful pollutants. Also, since these cookstoves consume less fuelwood, women would spend less time in collecting fuelwood and in cooking meals. Thus, they could devote more time to other productive work, leisure or childcare.
Location of stakeholders	Primary stakeholders i.e. project beneficiaries are all located in rural communities across the Gambia. The project staff is too located in the rural Gambia. Ministry of Petroleum and Energy of the Government of the Gambia is housed in Banjul, the capital city of the Gambia.
Location of resources	As this is not a land use project, this is not applicable.

2.1.2 Stakeholder Consultation and Ongoing Communication

Prior to the start of validation, PP conducted a comprehensive stakeholder consultation event as described in section 2.1.2 of registered VCS PD. The PP has already established a grievance

mechanism / ongoing communication for stakeholders to raise any concerns about potential negative impacts of the project during project implementation.

Ongoing consultation

The PP has established a comprehensive grievance redressal mechanism to ensure that stakeholders have access to a transparent and easily accessible system for ongoing consultation and resolution of project-related concerns as detailed in section 2.1.4 below. The stakeholders are informed about the grievance register which is maintained at the local office locations of the PP i.e., Banjul, The Gambia.

Further, DelAgua has a toll-free helpline (1120) for the relevant stakeholders to connect with them in case they require any assistance. Local people employed as field staff, and resource persons also serve as medium to escalate grievances received from the project beneficiaries in their respective zones to PP. Any relevant concern received during operation of project activity is addressed according to its merit.

DelAgua conducts regular household visits after distribution to the beneficiaries, allowing for continuous opportunities for consultation and communication. All households have the opportunity to raise grievances during this household visit. The PP conducted 68,618 household visits between May and August 2024 across the Lower River Region, Central River Region, and Upper River Region, followed by 12,279 household visits between November and December 2024 in the Lower River Region. These visits were conducted as part of the ongoing stakeholder engagement process and served multiple purposes, including:

- Reinforcing correct stove usage and maintenance practices
- Providing households with opportunities to share feedback or raise concerns
- Ensuring that households are aware of and have access to grievance mechanisms, including communication with field staff and the toll-free helpline
- Any concerns raised were noted and addressed appropriately.

These continuous visits support sustained use of the improved cookstoves and help maintain strong community relationships.

Additionally, each household receives a large pictorial poster, displayed near the kitchen or in another visible location within the home. These posters, written in the local language with pictorial

	representations, guide households on proper stove usage, dos and don'ts, and serve as a lasting component of the ongoing awareness campaign. Further, alongside national level LSC, PP conducts local stakeholder meetings with before distribution of stoves in each sector/district or sign a collaboration agreement with the districts. Attendees in such meetings include local government officials, alongside traditional local leaders from communities. This ensures the project is clearly communicated at all levels. As no new ICS distributed in this monitoring period hence additional meetings/collaboration agreement were not required.
Date(s) of stakeholder consultation	The stakeholder consultation was conducted prior to validation at national level on 21 November 2022.. Refer section 2.1 of the registered PD for details of consultation conducted prior to validation.
Communication of monitored results	The relevant government stakeholders have been informed through the preparation and submission of annual Report summarizing the emission reductions issued for the respective monitoring period..
Consultation records	Refer section 2.1 of the registered PD for details of consultation conducted prior to validation and records of local meetings conducted before distribution in monitoring period. Supporting evidence for collaboration agreement signed with paramount chief along with HHV details were shared with VVB.
Stakeholder input	All inputs received during stakeholder consultations were reviewed and considered by the project proponent. There was no substantive feedback from the consultations that required any material changes to the project design. However, engagement with all stakeholders helped provided a better understanding of local contexts to enable smooth ICS distributions and to better understand times and locations in which distributions could take place. Accordingly, no updates to the project design were necessary.

2.1.3 Free, Prior, and Informed Consent

Consent	Prior to commencing the project, DelAgua signed a Memorandum of Understanding with Ministry of Petroleum and Energy to distribute improved cookstoves to rural households across the Gambia. Following this, DelAgua has signed Collaboration Agreements with the Regional Governors that the project has been delivered in (to date.) These agreements help the population in protecting the environment by scaling down firewood consumption while
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	reducing indoor air pollution leading to improved respiratory health. At the household level, participation in the project is entirely voluntary. Finally, Primary stakeholders have been approached to ask if they wish to sign up to receive a free improved cookstoves. Beneficiaries are free to decline participation without any obligation or penalty. The same consent-based approach is followed during ongoing stakeholder consultations. No ongoing or unresolved conflicts relevant to the project were identified during stakeholder consultations or project implementation. The project does not involve land acquisition, does not affect access to natural resources, and does not introduce activities that could exacerbate or influence the outcomes of any existing local, social, or political conflicts. During the current monitoring period, no grievances or complaints related to conflict or community disputes were recorded.
Outcome of FPIC	The project does not require land acquisition, does not involve construction of permanent infrastructure, and has not encroached on land. No households or individuals have been relocated, and there has been no physical or economic displacement, whether forced or otherwise. DelAgua operates under an MoU with the Government of the Gambia (through the Ministry of Petroleum and Energy) that ensures we are operating with government approval and requires us to regularly report to government. At the community and household level, participation in the project is entirely voluntary. Each beneficiary household provides informed consent prior to stove distribution, and beneficiaries are free to decline participation without any obligation or penalty. There is no change for current MP.

2.1.4 Grievance Redress Procedure

Grievances received	Resolution and outcome
No major grievances have been received during the monitoring period. Please see submitted grievance register for record of minor grievances raised during this MP.	Not applicable

The PP has the grievance redressal procedure which ensures that stakeholders have access to a transparent and easily accessible system for ongoing consultation and resolution of grievances related to the project. The key aspects of the process are as follows:

1. Grievance Registration:

Stakeholders, including end users, can voice their grievances through multiple channels:

- Submitting grievances via the company's website at <https://www.delagua.org/Contactus/>
- Submitting a field level grievance in person (see below). This individual will then escalate the grievance to the correct grievance manager.
- Submitting grievances via the email (*TheGambia@delagua.org*). All contacts with government, and operational partners are done via email.
- Calling the toll-free helpline (1120) dedicated to grievance reporting.

2. Field-Level Escalation Mechanism:

Local individuals called Village Development Committees members (VDC) employed as field staff and resource persons act as intermediaries to escalate grievances received from project beneficiaries in their respective zones. During the course of their regular field work and household visits, these staff members ensure that concerns are promptly and accurately communicated to the Project Proponent (PP).

If a grievance is highlighted to a local individual, they are instructed to escalate the grievance to their line manager who can log the grievance at the local office location.

3. Grievance Logbook and Periodic Visits:

- A grievance logbook is maintained at the local office in Banjul, The Gambia and reviewed monthly to address concerns raised.
- Field staff conduct regular visits to project households, as stated above this is attempted at least once per annum providing a direct means of communication and consultation with stakeholders.

These measures are in place to facilitate effective communication and resolution of grievances, demonstrating the project's commitment to stakeholder engagement and inclusivity.

2.1.5 Public Comments

Summary of comments received	Actions taken
No comments were received.	Not applicable

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

DeAgua has been delivering cookstove projects for over 10-years and has several active projects listed under VERRA. DeAgua does not sub-contract any of the implementation of this project to non-DeAgua entities. Thus, DeAgua management teams have expertise or experience in implementing similar project activities and engaging communities.

The operational management team for this project are The Gambia nationals with deep experience of rural delivery of services and government engagement.

Senior management of DelAgua manage multiple projects across multiple jurisdictions with deep experience in Carbon Methodologies, Research, Data Analysis and management of large scale development projects.

2.2.2 Risk assessment

	Risk identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	Natural Threat: The climate crisis and natural disasters can precipitate displacement and migration, resulting in the relocation of households.	The grouped project involves distribution of ICS that are portable and lightweight. Consequently, users of the project's ICS can easily carry them in case relocation becomes necessary.
Risks to stakeholder participation	No risk Identified	The stakeholder consultation process has already been completed in accordance with the VCS requirements. All relevant stakeholders were identified prior to the consultation meeting and informed through appropriate means such as posters, public notices, and community channels. Stakeholders were consulted during project development, and their feedback was duly addressed. The project has demonstrated strong community support and is expected to contribute positively to the social, economic, and environmental development of stakeholders directly or indirectly impacted by the grouped project. Stakeholder engagement will continue throughout the project's implementation to ensure

		transparency, inclusiveness, and responsiveness to community needs.
Working conditions	DelAgua staff at risk from working in remote locations	DelAgua maintains a health, safety & security policy for all staff in The Gambia. In addition, DelAgua maintains a risk register (as part of an overall risk management policy) that tracks all risk types (in addition to safety and security.) This is updated on a quarterly basis.
Safety of women and girls	Household visits result in Project representatives visiting households to conduct surveys.	DelAgua ensures all staff follow a clear Code of Conduct that they sign up to upon recruitment. This policy is regularly updated and enforced. Toll Free number exists within The Gambia and a clear whistleblowing policy is adhered to for any grievances raised. Training includes modules on safety and security. All surveys must first gain consent of the respondent. This individual must be above 18 or the survey is immediately ended.
Safety of minority and marginalized groups, including children	Children are recruited to deliver the project.	DelAgua maintains a policy on child labour which all staff, suppliers and vendors are required to adhere to. This policy is regularly updated and enforced.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials)	No risk identified	The project does not involve the manufacture, trade, release, and/or use of hazardous and non-hazardous materials. Although end-of-life disposal of improved

and chemical pesticides and fertilizers)		cookstoves may result in waste generation in the future, no disposal activities have occurred during the current monitoring period, as all stoves distributed under the project remain within their expected operational lifetime of approximately 10 years. The project is at an early implementation stage, with the earliest stoves distributed in 2023. The project proponent holds responsibility for safe end-of-life management as per agreements with the Government of The Gambia, and a structured disposal and recycling framework is under development for implementation as stoves approach the end of their useful life. Accordingly, no pollution or waste-related risks have materialized during this Monitoring Period.
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2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

	Risks identified ⁴	Mitigation or preventative measure(s) taken
Discrimination	Risk of discrimination based on gender, race, religion, sexual orientation or other habits	DelAgua maintains several HR policies for staff as well as a safeguarding policy for beneficiaries. These policies are maintained, monitored and implemented by DelAgua's HR unit. No instances of

⁴ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

		discrimination were record during this monitoring period.
Sexual harassment	Risk of sexual harassment	DelAgua maintains several HR policies for staff as well as a safeguarding policy for beneficiaries. These policies are maintained, monitored and implemented by DelAgua's HR unit. No instances of sexual harassment were record during this monitoring period.
Gender equity in labor and work	Risk of gender inequalities in recruitment process	DelAgua maintains recruitment policies that specifically commit the organization towards gender equity. Where possible, DelAgua works to try to increase female recruitment into the organization
Forced labor	Risk of illegal act of recruiting, transporting, harboring, or receiving people through force, fraud.	DelAgua maintains policies on forced labour and requires that all staff, suppliers and vendors agree to adhere to these policies.
Child labor	Children are recruited to deliver the project.	DelAgua maintains policies on child labour and requires that all staff, suppliers and vendors agree to adhere to these policies.
Human trafficking	Risk of illegal act of recruiting, transporting, harboring, or receiving people through force, fraud.	DelAgua maintains policies on forced and child labour and requires that all staff, suppliers and vendors agree to adhere to these policies.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The project involves the distribution of improved cookstoves to individual households. In the context of this project, there are no legal or customary tenure/access rights to territories and resources, including collective and conflicting rights held by stakeholders, indigenous people (IPs), local communities (LCs), or customary rights holders. The primary stakeholders are given the opportunity to provide their details if they wish to receive a free improved cookstove. It is

entirely their choice whether to sign up or to decline. Once they have signed up, stoves are distributed irrespective of tribal, ethnic, religious or political backgrounds of the beneficiaries. Beneficiaries are not forced or coerced to use the stoves during ongoing monitoring work.

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	As the project is focused exclusively on the free provision of improved cookstoves, there is no impact on cultural heritage as part of project activities. Primary stakeholders are invited to give their name during the beneficiary data collection progress if they wish to receive an improved cookstove. They are not compelled to do so, nor are they told to change their traditional practices beyond being encouraged to use their improved cookstove for future cooking events.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The GP and its PAIs involves distribution of improved cookstove to households and communities in the Gambia and it does not require acquisition of property, hence no impact on any property rights. Hence, this is not applicable.

2.3.5 Benefit Sharing

Summary of the benefit sharing plan	Not applicable. The project activity involves distribution of improved cookstoves to individual households and it does not require acquisition of property.
Benefit sharing during the monitoring period	Not applicable as per above.

2.4 Ecosystem Health

	Risk identified	Mitigation or preventative measure(s) taken during the monitoring period
Impacts on biodiversity and ecosystems	No risk identified.	The ICS reduces GHG emissions through its better design and improved performance as compared to traditional stove,

		without changing the baseline fuel or introducing additional pollutants. Therefore, the project has no impact on biodiversity and ecosystems.
Soil degradation and soil erosion	No risk identified.	The project stoves directly decrease wood fuel demand and reduce the pressure from wood cutting within the project boundary. Thus, project activity will indirectly avoid erosion associated with tree cutting/ felling.
Water consumption and stress	No risk identified.	The by-products (ash and smoke) of the project's ICS match the baseline scenario, as there's no fuel change. This prevents any additional impact on natural watercourses, groundwater, or watersheds, including seasonal flow variations, flooding risks, aquatic connectivity issues, or water scarcity.

2.4.1 Rare, Threatened, and Endangered species

Not applicable, the project is not located in, or adjacent to habitats for rare, threatened, or endangered species.

2.4.2 Introduction of species

Not applicable, the project does not involve introduction of any species.

2.4.3 Ecosystem conversion

Not applicable, the project is not an ARR, ALM, WRC or ACoGS project.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The first ICS under the grouped project was distributed on 23-February-2023. Till the end of current monitoring period, the grouped project includes dissemination of Burn Kuniokoa G2 stoves. Total 76,088 ICS have been distributed till the end of the monitoring period.

Region	Count of ICS Distributed
Central River Region	40,322
Lower River	14,506
Upper River Region	21,260
Grand Total	76,088

For administrative purposes, the ICS have been clubbed as per investor groups. For the current monitoring period, there are three investor groups. The stoves are deemed under continuous operation since their installation. The operation of stoves was confirmed by a survey undertaken as part of monitoring requirements of VCS PD. The results of surveys are demonstrated in the ER spreadsheet and furnished to VVB for verification. No events occurred during the monitoring period that could impact the GHG emission reductions.

3.2 Deviations

3.2.1 Methodology Deviations

There are no methodological deviations in this monitoring period.

3.2.2 Project Description Deviations

There are no project description deviations in this monitoring period.

3.3 Grouped Projects

No new project activity instances have been added in this monitoring period.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF_{b,i,CO_2} EF_{p,j,CO_2}
Data unit	t CO ₂ /TJ
Description	CO ₂ emission factor for fuel used by baseline device type i in the baseline scenario CO ₂ emission factor for fuel used by project device type j in the project scenario
Source of data	Option 3: Default value from the most recent version of the IPCC Guidelines for National Greenhouse Gas Inventories
Value applied	Wood: 112 t CO ₂ /TJ
Justification of choice of data or description of measurement methods and procedures applied	IPCC default value for wood as per the applied methodology
Purpose of data	Calculation of baseline and project emissions
Comments	N/A

Data / Parameter	$EF_{b,i,non-CO_2}$ $EF_{p,j,non-CO_2}$
Data unit	t CO ₂ e/TJ
Description	Non-CO ₂ emission factor for fuel used by baseline device type i in the baseline scenario Non-CO ₂ emission factor for fuel used by project device type j in the project scenario
Source of data	Option 3: Default value from the most recent version of the IPCC Guidelines for National Greenhouse Gas Inventories
Value applied	Wood: 9.46 t CO ₂ /TJ (AR5 GWP)
Justification of choice of data or description	IPCC default value for wood as per the applied methodology

of measurement methods and procedures applied	
Purpose of data	Calculation of baseline and project emissions
Comments	N/A

Data / Parameter	NCV _{b,i} NCV _{p,j}
Data unit	TJ/tonne
Description	Net calorific value of baseline fuel used by baseline device type <i>i</i> Net calorific value of project fuel used by project device type <i>j</i>
Source of data	Option 3: Default value from the most recent version of the IPCC Guidelines for National Greenhouse Gas Inventories
Value applied	Wood: 0.0156 TJ/tonne
Justification of choice of data or description of measurement methods and procedures applied	2006 IPCC Guidelines for National Greenhouse Gas Inventories as per the applied methodology
Purpose of data	Calculation of baseline and project emissions
Comments	N/A

Data / Parameter	BC _{ex-ante,b,i} ⁵
Data unit	Tonnes/year
Description	Ex-ante annual average quantity of fuel used per baseline device type <i>i</i>
Source of data	Registered JPDMR Page 56
Value applied	6.947
Justification of choice of data or description of measurement methods and procedures applied	Measurement campaign following the Kitchen Performance Test .
Purpose of data	Calculation of baseline emissions

⁵ This parameter corresponds to BC_{ex-ante,b,i} for the first two years and where the follow-up baseline survey campaign shows that there are no significant changes in baseline fuel consumption. Otherwise, it corresponds to BC_{b,i,y}.

Comments	Energy consumption has been determined prior to validation.
Data / Parameter	$\eta_{old,avg}$
Data unit	Fraction
Description	Weighted average efficiency of baseline devices that are replaced by project devices
Source of data	VM0050 Methodology Default value (Page 30)
Value applied	15% (0.15)
Justification of choice of data or description of measurement methods and procedures applied	For a three-stone fire using firewood or a cookstove without an improved combustion air supply or flue gas ventilation, a default value of 15% is applied. The project distributes non-renewable wood-based improved cookstoves (ICS), replacing only baseline devices that meet these criteria.
Purpose of data	Calculation of baseline emissions
Comments	-

Data / Parameter	Hh_i $Hh_{j,k}$
Data unit	Equivalent standard male adults
Description	Average household size of the target population using device type i Average household size of the target population using device type j from batch k
Source of data	Registered JPDMR Page 55
Value applied	8.28
Justification of choice of data or description of measurement methods and procedures applied	The value is sourced from published report available in public domain for The Gambia.
Purpose of data	Estimation of average energy consumption when applying Option 1: Measurement campaign (Section 8.1.1) of the applied methodology Cross-checking energy and fuel consumption values.
Comments	N/A

4.2 Data and Parameters Monitored

Data / Parameter	N _{j,k,y}																	
Data unit	Number																	
Description	Number of commissioned project devices of type <i>j</i> from batch <i>k</i> in year <i>y</i>																	
Source of data	Monitoring (ICS Distribution Database)																	
Description of measurement methods and procedures to be applied	The following data is recorded during project activity implementation: 1) Number of new devices distributed under the project activity, identified by the type of device and date of commissioning; and 2) Identification information of the recipient of the device distributed under the project activity (e.g., name, address, phone number). Data management and reporting of this information must adhere to both data privacy requirements and good practice.																	
Frequency of monitoring/recording	Every time that new project devices are distributed																	
Value applied	<table><tr><th>S. No.</th><th>Investor Group</th><th>Total distribution of Burn Kunikoa</th></tr><tr><td>1</td><td>Investor Group 1</td><td>26,698</td></tr><tr><td>2</td><td>Investor Group 2</td><td>24,773</td></tr><tr><td>3</td><td>Investor Group 3</td><td>24,617</td></tr><tr><td></td><td>Total</td><td>76,088</td></tr></table>			S. No.	Investor Group	Total distribution of Burn Kunikoa	1	Investor Group 1	26,698	2	Investor Group 2	24,773	3	Investor Group 3	24,617		Total	76,088
S. No.	Investor Group	Total distribution of Burn Kunikoa																
1	Investor Group 1	26,698																
2	Investor Group 2	24,773																
3	Investor Group 3	24,617																
	Total	76,088																
Monitoring equipment	N/A																	
QA/QC procedures to be applied	N/A																	
Purpose of data	Calculation of baseline and project emissions																	
Calculation method	N/A																	
Comments	The number of project devices will be recorded in a database, sales record, or similar to ensure transparency. Here, the batch <i>k</i> is not segregated in a PAI. Every distribution under a PAI may be considered as a separate batch.																	

Data / Parameter	$n_{j,k,y}$
Data unit	Fraction
Description	Proportion of commissioned project devices of type j from batch k that are still being used regularly in year y
Source of data	Monitoring (Project Usage Survey)
Description of measurement methods	Option 2 (surveys): Based on an adoption rate determined by a

and procedures to be applied	survey according to the most recent version of the CDM Standard for Sampling and Surveys for Project Activities and Programmes of Activities. The adoption survey includes: a) Kitchen observation (which includes visual and physical checks of the stove and its components), including photographic evidence; and b) Interview with the primary cook. The project proponent has shared proof of training and supervision to ensure field teams have the capacity required to complete adoption surveys successfully. The average of the sum of "yes" (1) responses to the adoption survey question "If yes, have you used the stove regularly since you installed it?" (where this response is cross-checked and confirmed with the physical check of the stove and the coherency with the responses to the following questions of the survey), and "no" (0) responses to the questions "do you use the project cookstove?" and "If yes, have you used the stove regularly since you installed it?". where the project does not achieve the target precision in a monitoring period, the project proponent has used an appropriate conservativeness deduction as per Section 4 of the most recent version of the CDM Standard for Sampling and Surveys for CDM Project Activities and Programmes of Activities.
Frequency of monitoring/recording	Option 2 (surveys): annually
Value applied	0.9
Monitoring equipment	N/A
QA/QC procedures to be applied	The date on which a sample project device stopped being used should be taken as follows: Option 2 (surveys): Where the project device is not working or not being used at the time of conducting the survey, it should be conservatively assumed that the project device has not been active since the date on which the last adoption survey was conducted.
Purpose of data	Calculation of baseline and project emissions
Calculation method	N/A
Comments	Although the operational check was 100% as per the survey, in line with the clarification on VM0050, a cap of 0.9 was applied. 1) The PP has capped the usage rate at 90% in line with the

VM0050 v1.0 Corrections and Clarifications Number 2, based on the following:

1. *Selection of technologies and fuels that fully meet the cooking needs of the target population demonstrated by citing robust research or conducting an investigation of cooking practices and attitudes*
 - As detailed in Section 3.4 of the PD, the target population—rural households in Gambia—primarily use wood fuel and traditional wood stove technology for cooking. This is supported by both the project's baseline survey and national statistics.
 - The PP has distributed the Kuniokoa stove, an improved wood-burning stove, specifically to replace the traditional 3-stone fires or traditional wood stoves used by these households. This ensures that the distributed technology and fuel type fully meet the cooking needs of the target population.
2. *Implementation of support activities to assist households in effectively operating and maintaining their cookstoves. and maintaining their cookstoves. These may include providing materials (print, in-person, or video) on how to operate the cookstove to prepare common local foods, how to troubleshoot common operational issues, and how to make minor repairs (including obtaining necessary replacement parts). All such communications and materials must be provided in local language(s) commonly used in the project area.*
 - At the time of distribution, each household receives a poster agreement with pictorial representations showing how to properly use and maintain the stove, including clear do's and don'ts. These instructions are provided in the local language, ensuring accessibility and understanding. Demonstrations are also conducted during distribution events.
 - Additionally, during follow-up visits, local field teams provide users with training using a 16-page Flipbook, which covers proper usage, maintenance, and troubleshooting. This material is also in the local language.
3. *Provision of a commonly used, toll-free communications channel through which the target population can contact the project proponent to access support (e.g., maintenance and repair services)*
 - As detailed in Sections 2.1.4 of the MR above, the PP has established a toll-free helpline number (1120), enabling end users to easily reach out with feedback, requests for maintenance, or any grievances.

	Considering all these points, the project fully complies with all three conditions set out under Clarification Number 2 of VM0050 v1.0 Corrections and Clarifications, thereby justifying the capping of the usage rate at 90%.
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Data / Parameter	$f_{NRB,y}$
Data unit	Fraction or %
Description	Fraction of woody biomass that is established to be non-renewable used by device in year y
Source of data	Option 2: Calculated based on CDM TOOL30 and applying for an uncertainty discount of 26%
Description of measurement methods and procedures to be applied	Calculated as per the "TOOL30: Calculation of the fraction of non-renewable biomass" and applying an uncertainty discount of 26% in accordance with applied methodology
Frequency of monitoring/recording	Ex-ante for each crediting period
Value applied	0.666
Monitoring equipment	N/A
QA/QC procedures to be applied	N/A
Purpose of data	Calculation of baseline and project emissions
Calculation method	The value of 0.9 was registered in the PD under TOOL30 Version 4 for the host country, Gambia. This registered value in the PD is then adjusted by an uncertainty discount of 26% as follows: $= 0.9 \times (1-26\%) = 0.666$
Comments	This data has been fixed for entire crediting period.

Data / Parameter	$BC_{b,i,y}$
Data unit	Tonnes/year
Description	Fuel used per baseline device type i during year y
Source of data	Option 1: A measurement campaign following the Kitchen Performance Test Protocol in control households that do not participate in the project, established prior to validation as statistically equivalent to the pre-project conditions of project households regarding baseline fuel consumption Refer registered JPDMR Page 56

Description of measurement methods and procedures to be applied	Option 1: Follow-up baseline surveys must be conducted at most every five years from the date of the last survey in control households that do not participate in the project, established prior to validation as statistically equivalent to the pre-project conditions of project households regarding baseline fuel consumption. Measurement campaign must be updated where follow-up baseline surveys show that the fuels, fuel sources, or technologies used by the control group are no longer statistically equivalent to the pre-project conditions of project households. The measurement campaign must be designed, carried out, and analyzed in compliance with the most recent version of the CDM Standard for Sampling and Surveys for CDM Project Activities and Programmes of Activities. The result must be scaled appropriately using the average household size to obtain the value of $BC_{b,i,y}$.
Frequency of monitoring/recording	Every five years ⁶
Value applied	6.947
Monitoring equipment	N/A
QA/QC procedures to be applied	The campaign achieved a confidence and precision of 95/10 for the target parameter of average daily fuel consumption per adult equivalent.
Purpose of data	Calculation of baseline emissions
Calculation method	N/A
Comments	The project has identified 142 households (not participating in the project) as the control group and conducted baseline surveys on them. After five years (or earlier), at the time of re-assessment of baseline, with the subjects of controlled group, if any of the 142 households are not traceable (or have relocated), new control subjects (households) may be added to the control group.

Data / Parameter	$\eta_{new,avg,y}$
Data unit	Fraction
Description	Weighted average efficiency of project devices in year y

⁶ In accordance with 'Correction and Clarifications to VM0050' dated 03 Feb 2025, it is entirely at the discretion of the project participant (PP) to determine whether to conduct any additional follow-up baseline surveys within the five years from the date of the last survey.

Source of data	Monitoring (Standard Water Boiling Test Campaign)										
Description of measurement methods and procedures to be applied	The efficiency must be established using one of the following methods, and the corresponding documentation must be presented: 1) Water Boiling Test campaigns achieving 90/10 confidence and precision levels as per the most recent version of the CDM Standard for Sampling and Surveys for CDM Project Activities and Programmes of Activities; 2) Manufacturer-certified value that is determined via Water Boiling Test; or 3) Certification from the host country's national standards body or certifying agency. The decrease in thermal efficiency of project device j from batch k due to aging is accounted by conducting Standard Water Boiling Test campaigns during the monitoring period.										
Frequency of monitoring/recording	Annually										
Value applied	<table border="1"> <tr> <th colspan="2">Kuniokoa Efficiency value</th></tr> <tr> <th>With pot skirt</th><th>Without pot skirt</th></tr> <tr> <td>0.4760</td><td>0.3935</td></tr> </table> <table border="1"> <tr> <th>Monitored Utilization of Pot-skirt</th><th>Final Weighted Average $\eta_{new,avg,y}$</th></tr> <tr> <td>98.46%</td><td>0.4747</td></tr> </table>	Kuniokoa Efficiency value		With pot skirt	Without pot skirt	0.4760	0.3935	Monitored Utilization of Pot-skirt	Final Weighted Average $\eta_{new,avg,y}$	98.46%	0.4747
Kuniokoa Efficiency value											
With pot skirt	Without pot skirt										
0.4760	0.3935										
Monitored Utilization of Pot-skirt	Final Weighted Average $\eta_{new,avg,y}$										
98.46%	0.4747										
Monitoring equipment	All equipment used at the time of measurements were newly purchased; therefore, calibration was not required.										
QA/QC procedures to be applied	N/A										
Purpose of data	Calculation of baseline and project emissions										
Calculation method	N/A										
Comments	-										

Data / Parameter	$BC_{p,j,k,y}$
Data unit	Tonnes/year
Description	Average quantity of fuel used by project device type j from batch k during year y
Source of data	Monitoring (Project KPT campaign)
Description of measurement methods	Option 1: Kitchen Performance Test (KPT) A measurement campaign following the Kitchen Performance Test Protocol protocol was designed, carried out, and analyzed in

and procedures to be applied	compliance with the most recent version of the CDM Standard for Sampling and Surveys for CDM Project Activities and Programmes of Activities. The campaign achieved confidence and precision of at 95/10 for the target parameter of average daily fuel consumption per adult equivalent. The result was scaled appropriately using the average household size to obtain the value of $BC_{p,j,k,y}$. Project KPTs also measured the quantity of fuel used by pre-project devices that are still operational and provide it in the calculation sheet and monitoring reports (this is a reporting-only requirement).
Frequency of monitoring/recording	Biennial or annual for Option 1
Value applied	1.27
Monitoring equipment	All equipment used at the time of measurements were newly purchased; therefore, calibration was not required
QA/QC procedures to be applied	-
Purpose of data	Calculation of baseline and project emissions
Calculation method	A measurement campaign (Project KPTs), conducted following the Kitchen Performance Test Protocol protocol and analyzed in compliance with the most recent version of the CDM Standard for Sampling and Surveys for CDM Project Activities and Programmes of Activities.
Comments	A project KPT was conducted during the requantification of MP1-MP2 early this year from 26-January-2025 to 11-February-2025. As the required frequency of KPT is biennial, no measurement was required during the current monitoring period.

4.3 Monitoring Plan

This Grouped Project in *The Gambia* follows VCS standard requirements applicable, along with the methodological requirements on monitoring a grouped non-AFOLU large project activity. The monitoring surveys for the current monitoring period were conducted from 01 October 2025 to 04 October 2025.

PP maintains detailed records of the commissioning dates for all project devices, categorized by type (j) and batch (k), in accordance with the applied methodology.

1) The methods for measuring, recording, storing, aggregating, collating and reporting on monitored data and parameters:

The Project Proponent (PP) maintain a comprehensive project database that recorded all distributed cookstoves and was regularly updated with replacements and monitoring survey data. This database was accessible to the PPs, relevant partners, and the verification VVB, serving as the basis for selecting random, representative samples for monitoring and verification.

At a minimum, the database includes:

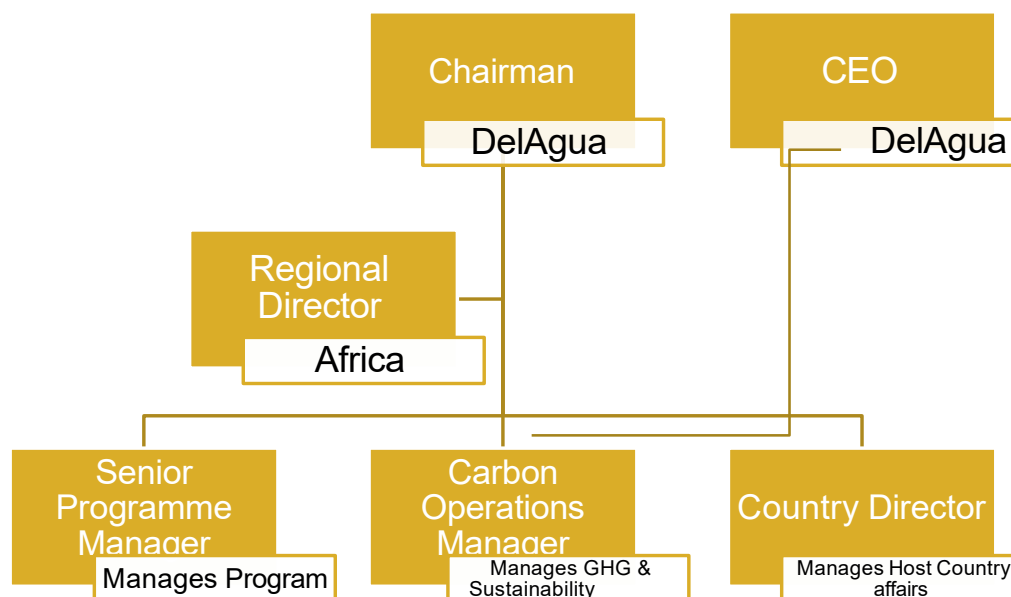
1. Date of sale
2. Geographic area of sale
3. Model/type of project technology sold/distributed
4. Name, telephone number (where available), and address of the recipient
5. Unique alphanumeric ID for each device sold/distributed

Monitoring surveys, conducted by external third parties and/or the PP's own teams, verified stove installations and operational status. Survey data was compiled in Excel spreadsheets and used to estimate proportions and mean values of key parameters. These values are factored into emission reduction calculations, ensuring compliance with VM0050 v1.0.

Additionally, all monitoring equipment was regularly calibrated, with records maintained for verification.

2) The organizational structure, responsibilities and competencies of the personnel that will be carrying out monitoring activities:

Team Involved: The DelAgua team involved in the GHG operations management is the local staff based in The Gambia along with the senior management.



The key responsibilities are shared by the team as follows:

Roles and Responsibility:

Chairman – Supervises the overall programme at strategy and financial side.

COO – Acts as central point of strategy, programme management, finance, and technical domains of the programme.

Regional Director – Responsible for the regional level programme implementation and expansion planning and implementation

Senior Programme Manager – Manages the programme at implementation level and acts as an internal technical reviewer for the programme documents and procedures.

Carbon Operations Manager – Manages the operations for GHG emission mitigation programme, from planning to implementation stage. Additionally, manages the Sustainability aspects of the programme.

Country Director – Supports programme in the operations and management at the host country level and acting as point of communication between DelAgua and government of The Gambia.

The collective responsibilities of DelAgua as the Project Participant are the following:

- Acts as the project managing entity
- Development of PD
- Registration/Issuance of the project with VERRA
- Inclusion of new PAIs upon satisfaction of the eligibility criteria stipulated in the PDD
- Authorized entity for any official communication with the VERRA and VVB
- Manage and archive the database for all appliances
- QA/QC of database during distribution & data collection
- Maintain local repair/replacement facilities
- Education and public awareness raising during initial distribution as well as periodic education campaigns.
- Data collection during distribution & delivery of data to database
- QA/QC of data collection
- Conduct ongoing monitoring, as required to ascertain monitored parameters

3) The procedures for internal auditing and QA/QC:

Distributors were trained in the proper installation, use, and maintenance of the devices and were provided with sufficient training to introduce recipient households to the correct operation and maintenance of the devices, along with contact information for DelAgua. Supervisors received similar training, as well as additional supervisory training for monitoring distributors' activities.

The data collected in the database was verified and controlled through the following measures:

- i. Surveys were conducted by staff trained by DelAgua.
- ii. Supervisors were separately trained by DelAgua to spot-check surveyor results.
- iii. All ex-ante and monitored data parameters were collected via smartphone-based surveys, ensuring uniformity across all surveyors for any given survey activity.
- iv. Unknown to the surveyors, database analysis included verification of “valid” surveys by: Confirming household consent was received. Ensuring the survey duration, as recorded by Internet time, fell within a reasonable range.

- v. Data validation was conducted on the database to ensure numerical consistency, such as verifying multiple-choice values summed to 100% of respondents.

4) The procedures for handling non-conformances with the validated monitoring plan

The project proponent ensured that field personnel had reviewed, understood, and agreed to follow the monitoring plan procedures, including provisions for maximizing response rates, documenting out-of-population cases, refusals, and other sources of non-response. To reduce interviewer bias, well-designed and thoroughly tested questionnaires were developed.

DeAgua was responsible for training any contractors involved in distribution, education, and monitoring activities. DeAgua ensured that all on-site staff were trained in adherence to the Monitoring Plan of the project activity. Training records were maintained, documenting step-by-step training programs provided to surveyors to ensure high-quality data collection. Surveyors were expected to conduct surveys in an unbiased manner without materially impacting the degree of conservativeness.

Since the surveys were conducted electronically, the process for recording responses and maintaining records was thoroughly communicated to the team through rigorous training sessions.

By integrating rigorous training, continuous oversight, and corrective measures, the project ensured that all monitoring activities aligned with the validated Monitoring Plan, maintaining data accuracy, credibility, and compliance.

5) Sampling Plan:

The sampling plan is intended to enable the discovery of unbiased and reliable estimates of monitored parameter values used in the GHG emission reduction calculations. The Project Proponent followed the sampling approach outlined in the CDM Standard for Sampling and Surveys (v9.0).

Given the large number of ICS units distributed, monitoring each unit individually was not economically feasible. Instead, representative sampling was conducted through a cross-PA (if applicable) sampling plan, ensuring compliance with the applied methodology and CDM standards.

Sample sizes were designed to meet the required precision levels. If the desired precision was not achieved, the lower bound of the confidence interval was used as an alternative to repeating the survey.

STEP 1 : Sampling Objectives The objective was to obtain an unbiased and reliable estimate of the proportion or mean value of the following key variables for each monitoring period.

No	Monitoring Parameters	Sampling Parameters	Parameter type	Monitoring frequency	Required in this MP
1	$\eta_{j,k,y}$	Proportion of commissioned project devices of type j from batch k that remain operating in year y	Proportion	Annually	Monitored
2	$\eta_{new,avg,y}$	Weighted average efficiency of project devices in year y	Mean	Annually	Monitored

3	BC _{b,i,y}	Fuel used per baseline device type i during year y	Mean	Every five years	NA
4	BC _{p,j,k,y}	Average quantity of fuel used by project device type j from batch k during year y	Mean	Biennial /annual	NA

STEP 2 : Target Population and sampling frame –

The target population is the total population served under the grouped project. The sampling consists of aggregated data of end-users of ICS from different vintages in line with the applied methodology and CDM guidelines “Sampling and surveys for CDM project activities and programmes of activities” as recorded in the grouped project Database.

STEP 3 : Sample Method - Sampling was conducted using stratified random sampling techniques over the sampling frame as defined above. Since only one stove model (Kuniokoa) was used, vintage remains the only stratification variable. Additionally, since all the ICS belong to a single vintage (2023), hence there remains only 1 sampling stratum applicable for MP3 i.e. 2023.

To undertake random sample selection in a manner that accommodates the logistical challenge posed by the potential inclusion of ~ 100 - 150 (numbers corresponds to sample size) distinct villages and sectors, a simple random sampling method is deemed impractical. Therefore, a stratified random selection approach is employed. Initially, villages are randomly selected with the number required achieved by dividing the sample size by 5, where 5 corresponds to the anticipated number of monitoring surveys achievable in a day by a DelAgua staff member. This choice is based on the operational feasibility of one staff member being able to conduct surveys in one village per day.

This is randomly selected through the excel formula as follows:

=INDEX (SORTBY (data,RANDARRAY(ROWS(data))),SEQUENCE(#villagesrequired))

Where first dataset is the list of villages. This gives a list of random villages.

After the identification of random villages, all stoves distributed within the villages are compiled into a singular document. Each stove is assigned a unique identifier, following which, using the =randbetween function, five stoves (households) are randomly selected from each of the chosen villages. This process gives the final sample set.

To determine the parameters, sampling involves the following approaches.

$\eta_{j,k,y}$: Visual inspection of the premises to see if ICS is operational and in use. Interview with end user if required to verify that ICS is still in use (Yes/No)

$\eta_{new,avg,y}$: WBT tests were conducted in the sampled households following WBT Protocol 4.2.3⁷, in line with the applied methodology..

⁷ Protocols | Clean Cooking Alliance

STEP 4: Desired Precision / Expected Variance and Sample Size

To estimate the number of premises to be surveyed with a 10% margin of error at desired confidence level of 95%, the optimal sample size n is given by:

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

Where:

Parameter	Description
n	Sample Size
N	Total number of cookstoves (ICS) distributed
Z	Constant referring to level of confidence (1.96 for 95 %, 1.646 for 90%)
Precision	Required precision (e.g., 10% = 0.1)

Where for Proportion Parameter:

$$V = \frac{SD^2}{p^2}$$

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

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

Parameter	Description
SD	Standard deviation
g_i	Weight of strata i in the population
p_i	Expected proportion of strata i in the population
k	Total number of strata in the population

And for mean-based parameters:

$$V = \frac{SD^2}{mean^2}$$

$$SD^2 = \frac{\sum g_i \times SD_i^2}{N}$$

$$mean = \frac{\sum g_i \times m_i}{N}$$

Parameter	Description
Mean	Weighted overall mean
m_i	Mean of strata i

As per the CDM guideline for Sampling and survey⁸, if the sample size calculation returns a value of less than 30 samples, a minimum sample size of 30 shall be chosen. The sample size calculation and monitoring results of the monitoring parameters has been shown below:

Sampling Constants	Values
Monitoring period start	11/1/2024
Monitoring period end	10/31/2025
Level of Sampling	Grouped Project Level
Monitoring Frequency	Annual
Confidence (%) (90 or 95)	95%
Margin of Error (%)	10%
Z value	1.960

- **Parameter** ($\eta_{\text{new,avg,y}}$)

As per the sample size calculation, 7 samples were calculated to be surveyed, However, 12 samples were considered to compensate for any outliers or non-responses associated with samples and to get accurate results. The snapshots below demonstrate that required precision is met i.e., the parameter is within the 95/10 confidence/precision. For detailed calculation of the standard error and relative precision of the parameter $\eta_{\text{new,avg,y}}$ refer tab “Sample Size Cal & Results” of the ER sheet.

Project Stove (Kuniokoa) Efficiency $\eta_{\text{new,avg,y}}$							
Given stove model and vintage population							
Stratified random sampling							
Sampling frame	Sampling Population	Expected Value (without pot-skirt)	Expected SD (without pot-skirt)	Expected Value (with pot-skirt)	Expected SD (with pot-skirt)	Calculated Minimum Sample Size without pot-skirt (n)	Calculated Minimum Sample Size with pot-skirt (n)
2023	76088	0.42	0.042	0.50	0.05	7	7
Estimated efficiency (mean)						0.42	0.50
Estimated Standard Deviation of efficiency (SD)						0.04	0.05
$V_{\text{eff}} = (SD/\text{mean})^2$						0.01	0.01
Minimum Sample Size required (efficiency)						4	4
tDistribution sample size adjustment				Iteration 1		11	11
				Iteration 2		5	5
				Iteration 3		8	8
				Iteration 4		6	6
				Iteration 5		7	7
				Iteration 6		6	6
				Iteration 7		7	7
Monitoring results							
Sampling Population	Sampling frame size	Monitored Sample Size (without pot-skirt)	Monitored Efficiency (Fraction) (without pot-skirt)	Monitored Standard Deviation (without pot-skirt)	Monitored Sample Size (with pot-skirt)	Monitored Efficiency (Fraction) (with pot-skirt)	Monitored Standard Deviation (with pot-skirt)
2023	76088	12	0.3935	0.00834	12	0.4760	0.00992
Reliability Check							
Samples Monitored				12	Samples Monitored		
Efficiency Monitored				39.35%	Efficiency Monitored		
Standard error of mean				0.0024	Standard error of mean		
Relative precision (Margin of error) (%)				1.347%	Relative precision (Margin of error) (%)		
Result				Ok, reliability level met	Result		
Lower Bound confidence value				Not applicable	Lower Bound confidence value		

⁸ https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20151023152925068/Meth_GC48_%28ver04.0%29.pdf

- Parameter ($n_{j,k,y}$)

Monitoring parameter(s)		Stove Operating Fraction for determination of $n_{j,k,y}$	
Sampling frame(s)		Given stove model and vintage population	
Sampling approach		Stratified random sampling	
Sampling Population	Sampling frame size	Expected operational proportion	Calculated Minimum Sample Size (n)
2023	76088	0.90	43
Sample size determination			
Estimated $n_{j,k,y}$ (p)			0.90
Estimated Standard Deviation of $n_{j,k,y}$ (SD)			0.30
Variance (SD/p) ²			0.11
Sample Size required			43
Monitoring results			
Sampling Population	Sampling frame size (N)	Monitored Sample Size (n)	Monitored ($n_{j,k,y}$)
2023	76088	130	1.000
Reliability Check			
Samples Monitored			130
$n_{j,k,y}$ Measured			100.00%
Standard Error of $n_{j,k,y}$			0.00%
Relative precision (Margin of error)			0.00%
Result			Ok, reliability level met
Lower Bound confidence value			Not Applicable

As per the sample size calculation, 43 samples were calculated to be surveyed, However, 130 samples were considered to compensate for any outliers or non-responses associated with samples and to get accurate results. The snapshots above demonstrate that required precision is met i.e., the parameter is within the 95/10 confidence/precision. For detailed calculation of the standard error and relative precision of the parameter $n_{j,k,y}$ refer tab “Sample Size Cal & Results” of the ER sheet.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

As per the section 8.1 of applied methodology, Baseline emissions are calculated as follows:

$$BE_y = \sum EC_{i,y} \times N_{j,k,y} \times n_{j,k,y} \times (EF_{b,i,CO2} \times f_{NRB,y} + EF_{b,i,nonCO2}) \quad (1)$$

Where:

BE_y	Baseline emissions during year y (t CO ₂ e)
$EC_{i,y}$	Average energy consumption of baseline device type i in year y (TJ)
$N_{j,k,y}$	Number of commissioned project devices of type j from batch k in year y
$n_{j,k,y}$	Proportion of commissioned project devices of type j from batch k that remain operating in year y (fraction)
$EF_{b,i,CO2}$	CO ₂ emission factor for fuel used by baseline device type i in the baseline scenario (t CO ₂ /TJ)
$f_{NRB,y}$	Fraction of woody biomass that is established to be non-renewable used by baseline device in year y (fraction)
$EF_{b,i,nonCO2}$	Non-CO ₂ emission factor for fuel used by baseline device type i in the baseline scenario (t CO ₂ e/TJ)
i	Baseline device type and its respective fuel type
j	Project device type and its respective fuel type

The average energy consumption of baseline device type i is calculated as follows:

$$EC_{i,y} = BC_{b,i,y} \times NCV_{b,i} \quad (2)$$

Where:

$BC_{b,i,y}$	Fuel used per baseline device type i during year y (tonnes) ⁹
$NCV_{b,i}$	Net calorific value of baseline fuel for baseline device type i (TJ/tonne)

Cross-check of $EC_{i,y}$ to address stove stacking

Compare the quantity of baseline energy consumption ($EC_{i,y}$) to energy used in the project scenario ($EC_{p,y}$) using back-calculation:

$$EC_{est,y} = EC_{p,y} \times \eta_{new,avg,y} / \eta_{old,avg} \quad (3)$$

⁹ This parameter corresponds to $BC_{ex-ante,b,i}$ for the first two years and where the follow-up baseline survey campaign shows that there are no significant changes in baseline fuel consumption. Otherwise, it corresponds to $BC_{b,i,y}$. However, In accordance with 'Correction and Clarifications to VM0050' dated 03 Feb 2025, it is entirely at the discretion of the project participant (PP) to determine whether to conduct any additional follow-up baseline surveys within the five years from the date of the last survey.

Where:

$EC_{est,y}$	Back-calculated energy consumption of the potential mix of devices and fuels in the baseline in year y (TJ)
$EC_{p,y}$	Energy used in project scenario by project devices during year y (TJ)
$\eta_{new,avg,y}$	Weighted average efficiency of project devices in year y (fraction)
$\eta_{old,avg}$	Weighted average efficiency of baseline devices that are replaced by project devices (fraction)

If baseline consumption ($EC_{i,y}$) exceeds back-calculated project consumption ($EC_{est,y}$), $EC_{est,y}$ will be used as a conservative cap in Equation (1) as follows:

$$BE_y = \sum \min \{EC_{i,y}, EC_{est,y}\} \times N_{j,k,y} \times n_{j,k,y} \times (EF_{b,i,CO2} \times f_{NRB,y} + EF_{b,i,nonCO2}) \quad (1a)$$

$$EC_{p,y} = \sum_{j,k} BC_{p,j,k,y} \times NCV_{p,j} \quad (4)$$

Where:

$BC_{p,j,k,y}$	Average quantity of fuel used by project device type j from batch k during year y (tonnes or m3)
$NCV_{p,j}$	Net calorific value of project fuel used in project device type j (TJ/tonne or TJ/m ³)

For detailed calculations, refer to ER sheet.

5.2 Project Emissions

As per the section 8.2 of applied methodology, project emissions are calculated as follows:

$$PE_y = PE_{energy,y} + PE_{others,y} \quad (6)$$

Where:

PE_y	Project emissions during year y (t CO ₂ e)
$PE_{energy,y}$	Project emissions from energy consumption of project devices in year y (t CO ₂ e)
$PE_{others,y}$	Project emissions from other sources in year y (t CO ₂ e)

Project emissions from energy consumption of project devices using biomass in year y are calculated as follows:

$$PE_{energy,y} = \sum_j \sum_k BC_{p,j,k,y} \times N_{j,k,y} \times NCV_{p,j} \times n_{j,k,y} \times (EF_{p,j,CO2} \times f_{NRB,y} + EF_{p,j,non-CO2}) \quad (7)$$

Where:

$EF_{p,j,CO2}$	CO ₂ emission factor for fuel used by project device type j in the project scenario (t CO ₂ /TJ)
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Section 8.2.2 (Equation 8) of the methodology is not applicable since the project does not involve electric cookstoves and focuses on the distribution of improved biomass cookstoves.

Section 8.2.3 (Equations 9 and 10) of the methodology does not apply as the project exclusively focuses on the distribution of improved biomass cookstoves and does not involve electric cookstoves, renewable biomass, biomass-derived fuels, or renewable charcoal.

Furthermore, woody biomass remains the primary fuel in both the baseline and project scenarios, sourced from local markets or nearby forest areas. In the baseline scenario, households rely on inefficient traditional cookstoves, leading to higher fuel consumption and more frequent trips for fuel collection or purchase. This results in greater emissions from transportation due to the increased demand for fuel distribution.

In contrast, the project scenario introduces more efficient improved cookstoves (ICSs), which significantly reduce fuel consumption. With lower fuel demand, there are fewer trips needed for fuel transportation, leading to lower emissions from fuel production and transport. Since emissions are higher in the baseline than in the project scenario, they can be ignored as per section 5 of the methodology.

Thus $PE_{others,y}$ (Equation 9) will be considered zero in the calculation of project emissions.

Refer ER sheet for detailed project calculations.

5.3 Leakage Emissions

As per Section 8.3 of the methodology, an adjustment factor of 0.95 has been applied in Equation 11 to account for leakage emissions associated with the reduced or avoided use of non-renewable biomass.

5.4 GHG Emission Reductions and Carbon Dioxide Removals

As per section 8.4 of the methodology Net GHG emission reductions are calculated as follows:

$$ER_y = (BE_y - PE_y) \times 0.95 - LE_{RB,y} \quad (11)$$

Where:

ER_y	Emission reductions during year y (t CO ₂ e)
$LE_{RB,y}$	Leakage emissions associated with use of renewable biomass during year y (t CO ₂ e)

The calculation of ERs for MP-3 is as follows:

Parameters	Units	2024	2025	Formula	Reference/Source
$f_{NRB,y}$	(fraction)	0.9000	0.9000	-	Registered PD
$f_{NRB,y}$	(fraction)	0.6660	0.6660	-	Adjusted using default adjustment factor given in VM0050 v 1.0
$NCV_{b,i} = NCV_{p,i}$	(TJ/tonne)	0.0156	0.0156	-	Methodology default (VM0050 v 1.0)
$EF_{b,i,CO_2} = EF_{p,i,CO_2}$	(t CO ₂ /TJ)	112	112	-	Methodology default (VM0050 v 1.0)
$EF_{b,i,non-CO_2} = EF_{p,i,non-CO_2}$	(t CO _{2e} /TJ)	9.46	9.46	-	Methodology default (VM0050 v 1.0)
LE	(fraction)	0.95	0.95	-	Methodology default (VM0050 v 1.0)
$\eta_{old,avg}$	(fraction)	0.15	0.15	-	Methodology default (VM0050 v 1.0)
$N_{j,k,y}$	(units)	76088	76088	-	ICS Distribution Summary
$\eta_{j,k,y}$	(fraction)	0.9000	0.9000	-	Ex-post Usage Survey Results
% usage of pot-skirt	(fraction)	98.46%	98.46%	-	Ex-post Usage Survey Results
$\eta_{pot-skirt_Kuniooka}$	(fraction)	0.4760	0.4760	-	Ex-Post WBT Test
$\eta_{non-skirt_Kuniooka}$	(fraction)	0.3935	0.3935	-	Ex-Post WBT Test
$\eta_{new,avg,y}$	(fraction)	0.4747	0.4747	-	Calculated
$BC_{b,i,y}$	(tonnes or m ³)/HH	6.943	6.943	-	Registered JPDMR Page 56 (link)
$BC_{p,i,k,y}$	(tonnes or m ³)/HH	1.272	1.272	-	Project KPT
$EC_{b,i,y}$	(TJ)	0.1083	0.1083	$EC_{b,i,y} = BC_{b,i,y} * NCV_{fuel}$	Calculated
$EC_{p,i,y}$	(TJ)	0.01984	0.01984	$EC_{p,i,y} = BC_{p,i,k,y} * NCV_{fuel}$	Calculated
$EC_{est,y}$	(TJ)	0.06278	0.06278	$EC_{est,y} = EC_{p,y} * \eta_{new,avg,y} / \eta_{old,avg}$	Calculated
		0.1667	0.8329	-	Calculated
BE_y	(t CO _{2e})	60,227	300,973	$BE_y = \min(EC_{b,i,y}, EC_{est,y}) * N_{j,k,y} * \eta_{j,k,y} * (EF_{CO_2} * f_{NRB,adjusted} + EF_{non-CO_2})$	Calculated
$PE_{energy,y}$	(t CO _{2e})	19,030	95,099	$PE_{energy,y} = EC_{p,y} * N_{j,k,y} * \eta_{j,k,y} * (EF_{CO_2} * f_{NRB,adjusted} + EF_{non-CO_2})$	Calculated
PE_y	(t CO _{2e})	19,030	95,099	$PE_y = PE_{energy,y} + PE_{others,y}$	Calculated
LE_y	(t CO _{2e})	2,060	10,294	$LE_y = (BE_y - PE_y) * 0.05$	Calculated
ER_y	(t CO _{2e})	39,137	195,580	$ER_y = (BE_y - PE_y) * 0.95$	Calculated
ER_y	(t CO _{2e})		234,717		Calculated

For detailed calculation, please refer to the ER calculator.

Below table illustrates of emission reductions achieved during MP3.

Vintage period	Baseline emissions (tCO _{2e})	Project emissions (tCO _{2e})	Leakage emissions (tCO _{2e})	Reduction VCUs (tCO _{2e})	Removal VCUs (tCO _{2e})	Total VCUs (tCO _{2e})
01-November-2024 – 31-December-2024	60,227	19,030	2,060	39,137	0	39,137
01-January-2025 – 31-October-2025	300,973	95,099	10,294	195,580	0	195,580
Total	361,200	114,129	12,354	234,717	0	234,717

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-November-2024 – 31-December-2024	137,275	39,137	~71.5% lower	The decrease in emission reduction is mainly due to no ICS distributed during the current monitoring period. As a result, the actual distribution is lower than the ex-ante expected distribution, leading to a lower number of ERs, which is appropriate.
01-January-2025 – 31-October-2025	914,665	195,580	~78.6% lower	
Total	1,051,940	234,717	~77.7% lower	

APPENDIX 1: COMMERCIALY SENSITIVE INFORMATION

No information presented in the monitoring report is deemed commercially sensitive.

APPENDIX 2: EVIDENCE OF PROJECT SDG CONTRIBUTIONS

The SDG contributions for SDGs 1, 3, 5 and 7 are calculated directly in the ER sheet based on survey data. Screenshot showing these calculations is attached here as evidence. For detailed information on how these contributions are calculated, please refer to the 'Ex-post Survey Results' tab in the ER sheet.

SDG Contributions		
SDG Indicator	Monitoring Parameter	Result
1.4.1 Proportion of population living in households with access to basic services	Number of ICS distributed	76,088
3.9.1 Mortality rate attributed to household and ambient air pollution	The proportion of HHs confirming the reduction in smoke after using the project ICS (%)	99.23%
5.4 Proportion of time spent on unpaid domestic and care work, by sex, age and location	The proportion of HHs confirming the reduction in amount of time spent on collection of firewood and cooking time (%)	100.00%
7.1.2 Proportion of population with primary reliance on clean fuels and technology	Number of HHs with access to clean cooking technology	76,088
8.3.1 Proportion of informal employment in total employment, by sector and sex	Number of Employment created by the implementation of Project activity	12
12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	Number of HHs trained on the proper use of improved cookstoves contributes to sustainable development	76,088
13.0 Tonnes of greenhouse gas emissions avoided or removed	Tonnes of greenhouse gas emissions reduced	234,717

Evidence for SDG 8 (employment list) and SDG 12 (training records) is shared directly with the VVB, which involves numerous pages. Including them here would add more pages to the MR, so to keep the document manageable, this information is shared separately.