



Validation report form

(Version 02.0)

Complete this form in accordance with the "Attachment: Instructions for filling out the validation report form for CDM project activities" at the end of this form.

VALIDATION REPORT

Title of the project activity	Ecofiltro Guatemala Improved Stoves and Water Purification Project
Version number of the validation report	03
Completion date of the validation report	09/02/2020
Version number of PDD to which this report applies	Version: 6.0; Dated: 17/01/2020
Date when PDD was uploaded for global stakeholder consultation	N/A
Project participant(s)	Ecofiltro S.A., Natural Capital Partners
Host Party	Guatemala
Estimated annual average GHG emission reductions or net removals in the crediting period (tCO₂e)	175,243GS VERs/year
SDG Impacts:	1. Financial savings from wood savings by using the efficient stove and saving time to allocate in other beneficial activities that will decrease the poverty level (SDG 1.1). 2. Removal of 99.99% of pathogens avoiding water-borne diseases (SDG 3.3). 3. Improvement in air quality, reduction of respiratory diseases and air contamination (SDG 3.9). 4. The water filter achieve universal and equitable access to safe and affordable drinking water the Guatemalan people (SDG 6.1). 5. The high quality improved stove replace inefficient traditional three stone fire and ensures access to affordable energy for cooking (SDG 7.1) 6. Ecofiltro provides employment, economic growth and decent work (SDG 8.5). 7. More efficient use of natural resources by saving almost 70% of wood consumption in the efficient stove (SDG 12.2). 8. The project can reduce 150,000 tCO₂e per year in average, taking action in climate change impacts (SDG 13). 9. The decrease in fuelwood use will improve deforestation rates and the corresponding threat to biodiversity, this will also can minimize the risk of landslides and the

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	negative impact on agricultural yields from soil erosion (SDG 15.1).
Sectoral scope(s) and selected methodology(ies)	01, 03 and 13 Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1
Name of VVB	Carbon Check (India) Private Limited
Name, position and signature of the approver of the validation report	Amit Anand, CEO 

SECTION A. Executive summary

Purpose and general description

The Project Participant, Natural Capital Partners has appointed /05/ the VVB, Carbon Check (India) Private Ltd. to perform a renewal of crediting period of the Gold Standard Project Activity “Ecofiltro Guatemala Improved Stoves and Water Purification Project (hereafter referred to as “project activity”). This report summarises the findings of the validation of the project, performed on the basis of Gold Standard criteria for registration/renewal of crediting period, as well as criteria given to provide for consistent project operations, monitoring and reporting. This report contains the findings and resolutions from the validation and a validation opinion.

As per the PDD /01/, the project activity “Ecofiltro Guatemala Improved Stoves and Water Purification Project” seeks to improve the health and incomes of Guatemalans by reducing time and money spent acquiring fuel for cooking and by providing local populations with improved access to clean water. The project involves distribution of high-quality, affordable improved cook stoves to replace inefficient traditional 3 stone and “polleton” open fires in rural and peri-urban areas. The project also involves distribution of high quality, affordable water purification devices that will increase access to safe drinking water and reduce the need to boil for sanitation.

Ecofiltro is a Guatemalan business created to manufacture and market the locally designed Ecofiltro water purification device. Ecofiltro together with Natural Capital Partners are leading the development and finance of the project. Ecofiltro has partnered with Natural Capital Partners to coordinate and manage the development of the carbon asset in order to enable the Project with carbon finance. Input to the design of this project was provided during the planning of this project by local stakeholders, NGOs, Government Agencies, and companies from all regions of Guatemala through the stakeholder consultation process carried out in first crediting period. Ecocomal is a stove manufacturing company with operations in Guatemala, and it is the company in charged on manufacturing the project's stove.

The purpose of a renewal of crediting period is to have a thorough and independent assessment of the proposed project activity against the applicable Gold standard, in particular, the project's baseline, monitoring plan and the project's compliance with relevant Gold standard criteria. These are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all Gold Voluntary projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of voluntary emission reductions (VERs).

Location

Republic of Guatemala.

Scope of the validation

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD /01/ is reviewed against the relevant criteria (see above) and decisions by the Gold standard, including the approved baseline and monitoring methodology /B01/. The validation team has, based on the recommendations in the CDM Validation and Verification Standard employed a rule-based approach, focusing on the identification of significant risks for project implementation and the generation of VERs.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

While carrying out the validation, CCIPL determines if the project activity complies with the requirements of the applicability conditions of the selected methodology /B01/, guidance issued by the Gold Standard and also assess the claims and assumptions made in the PDD /01/ without limitation on the information provided by the project participants.

The Validation team confirms the contractual relationship signed between the VVB, Carbon Check (India) Private Ltd. and the Project Participant. The team assigned to the validation meets the Carbon Check (India) Private Ltd.'s internal procedures including the UNFCCC/Gold Standard requirements for the team composition and competence. The projects team has conducted a thorough contract review as per UNFCCC and Carbon Check procedures and requirements.

Validation methodology

The validation has been performed as described in the VVS and constitutes the following steps:

- Document review of data and information (PDD /01/ and the relevant documents including the reference to information relating to projects or technologies similar to the proposed project activity and review based on the approved methodology /B01/ being applied and of the appropriateness of formulae and accuracy of calculations).
- Cross checks between information provided in the PDD /01/ and information from other sources.
- Follow up actions for cross checking data and on-site assessment.
- Reference to available information
- Issuance of Validation Report.

Validation Process

The validation consists of the following four phases:

- I. A desk review of the project design documents
 - A review of data and information;
 - Cross checks between information provided in the PDD /01/ and the information from sources with all the necessary means without limitations to the information provided by the project proponent;
 - Upload of the Validation work plan on the GS project registry.
- II. On-site visit and follow-up interviews with the project stakeholders
 - Interviews with the relevant stakeholders in the host country with personnel having knowledge with the project development via telephone, email or direct on-site visits;
 - Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project proponent;
- III. Reference to available information's relating to projects or technologies similar projects under validation and review based on the approved methodology /B01/ being applied of the appropriateness of formulae and accuracy of calculations.
- IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The report is based on the assessment of the PDD /01/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, site visit, and stakeholder interviews, review of the applicable/applied methodology /B01/ and its underlying formulae and calculations.

This report contains the findings and resolutions from the validation and a validation opinion on the proposed project thus confirming the project design as document is sound and reasonable and meets the stated requirements and identified criteria.

The validation protocol describes a total of three (03) findings which include:

- 02 (Two) Corrective Action Requests (CARs);
- 01 (One) Clarification Requests (CLs);

All findings are closed during the validation process.

There is one (01) FAR raised during the renewal of crediting period validation. There are four (04) FAR from previous verification. All of these FARs shall be checked during the next periodic verification i.e. 1st MP of 2nd crediting period.

Conclusion

Carbon Check (India) Private Ltd. concludes the validation of renewal of crediting period with a positive-opinion that the Project Activity "Ecofiltro Guatemala Improved Stoves and Water Purification Project" in Guatemala, as described in the PDD /01/, meets all applicable Gold standard = requirements, relevant methodologies, tools and guidelines.

The selected baseline and monitoring methodology /B01/ is applicable to the project and correctly applied. Carbon Check (India) Private Ltd. therefore recommends the project to the Gold Standard for renewal of crediting period.

SECTION B. Validation team, technical reviewer and approver**B.1. Validation team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Team Leader/ Technical Expert/ Validator/Local Expert	IR	Singh	Vikash Kumar	CC IPL
2,	Technical reviewer	IR	Agarwalla	Sanjay Kumar	CC IPL

Audit Team Experience:

The team composition is linked to the methodology and local experience in the host country.

Vikash Kumar Singh: Qualified lead assessor and internal technical reviewer for offset projects validations and verifications under CDM, VCS and Gold Standard (GS) and actively been involved in the validation and verification or internal technical review of more than 200 GHG offset projects. He is qualified as technical expert for TA 1.2, 3.1,4.1,13.1 and 13.2 under CDM SS categorisation. He has undergone extensive training in the validation and verification of carbon offset projects including the accreditation requirements for the VVBs. He has also received accreditation from the California Air Resources Board (ARB) under Executive Order H2-13-174 as a GHG offset lead verifier for carbon offsets projects and is a specialist for the livestock protocol. Currently, he is employed with Carbon Check in the capacity of Compliance Officer. He holds a Bachelor of Science degree in Environment & Water Management and Master of Science degree in Environmental Management. He has been involved in number of GS validation and verification projects (as internal technical reviewer and team leader) for e.g. Up Energy's Improved Cookstove Carbon Project, Uganda with GS reference number GS 1044 , Dissemination of Fuel Efficient Biomass Stoves and Water Purification Systems in Tanzania with GS reference number GS 850. He has also attended Several Gold Standard VVB webinar training and also webinar on GS4GG and passed the online examination under GS4GG. He was also involved as validation and verification assessor in the following Gold Standard Projects: GS 1078, GS 1044, GS 976, GS 850, GS 916 PoA (GS 1231 (VPA 01) GS 1029 (VPA 02), GS 1030(VPA 03), GS 1031(VPA 04) and GS 4364.

Vikash has extensive work experience on working in GS, CDM and VCS projects in Guatemala and in the region (Guatemala and Honduras). He can effectively communicate to the stakeholders of the project in Spanish due to his proficiency in the Spanish language. He has worked as team leader for the following projects in Guatemala and in the region (Guatemala and Honduras):

- 1st periodic verification of PoA Distribution of ONIL Stoves—Guatemala, UNFCCC ref. No.: 8480
- 1st periodic verification of CDM GS PoA Programme of Activities-8950-002 Zinguizapa Small – Scale Hydropower Project and CPA 8950-003 Puringla Sazagua Small Scale Hydropower Project” (Gold Standard ID Number GS 3552) in Honduras
- Verification of VCS project (VCS ID 1216 and 1803) “Distribution of ONIL Stoves – Mexico.” in Mexico
- 3rd periodic verification of PoA - PoA 6198 : Tunki Small Scale Hydropower Program of Activities in Peru

Sanjay Kumar Agarwalla: He is an appointed Team Leader and Technical Expert for technical area 1.1, 1.2, 2.1, 3.1, 4.1, 5.1, 5.2, 8.1, 9.1, 9.2 and 13.1. He is having more than 22 years of experience, which involves more than 10 years of industrial experience and almost twelve years in climate change. He worked in various capacities at Kesoram Rayon, Durgapur Chemicals Limited, Gensol Consultants, TUV Rheinland India Pvt Ltd and LRQA. He is involved in more than 70 GHG audits including validation/verification/post registration

changes. He also has GS Audit Experience and attended the Gold Standard webinar. The GS projects on which he has worked are 1309, 850, 6191, 411, 1353 and 939.

SECTION C. Means of validation

C.1. Desk review

List of all documents reviewed or referenced during the validation is provided in Appendix-3.

C.2. On-site inspection

Duration of on-site inspection: 17-19 October 2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Opening Meeting	Gautemala	17 October 2019	Vikash Kumar Singh (VKS)
2.	Discussion on the following aspects of the project: - Project design and proposed technology to be used - Baseline survey - FNRB calculation - Baseline Scenarios - Emission Reductions - Implementation schedule with milestones - Management structure with Roles and Responsibilities - Monitoring Plan/Sampling Plan and process to be adopted	Gautemala	17 October 2019	Vikash Kumar Singh (VKS)
3.	Following on-site inspections were conducted: 08 households from the baseline survey were visited and interviewed 08 Stakeholders who were part of LSC were interviewed - Implementation and operation status was reviewed	Gautemala	17-19 October 2019	Vikash Kumar Singh (VKS)
4.	Local stakeholder interviews	Gautemala	17-19 October 2019	Vikash Kumar Singh (VKS)
5.	Discussion on PDD, ER spread-sheet and supporting documents	Gautemala	17-19 October 2019	Vikash Kumar Singh (VKS)

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Mendizabal	Eddy Meléndez	Natural Capital Partners	17-19 October 2019	- Project Design - Organisation background - Project Implementation plan - Project start date and Project Location - Project background information - Baseline surveys - Water boiling test - FNRB calculation	VKS

					• Baseline Scenario • Baseline Identification and Additionality • Monitoring and reporting documentation • Qualification and Training • Quality Assurance – Management and operating system • Social and Environmental Impacts • Local Stakeholders meeting process • Compliance with relevant laws • Roles and responsibility • Observations of established practices	
2.	Philip	Wilson	Ecofiltro S.A	17-19 October2019	Project Implementation and operation.	VKS
3.	Choc	Otto	Ecofiltro S.A	17-19 October2019	Project Implementation and operation, baseline survey.	VKS
4.	Gonzalez	Biandon	Ecofiltro S.A	17-19 October2019	Project Implementation and operation, baseline survey.	VKS
5.	Leon	Marisol De	Ecofiltro S.A	17-19 October2019	Project Implementation and operation, baseline survey.	VKS
6.	Pop Coconado	Hugo Doniel	Ecofiltro S.A	17-19 October2019	Baseline survey and project's SD impacts	VKS
7.	Sean	Marcela De	Household s	17-19 October2019	Baseline survey and project's SD impacts	VKS
8.	Vargas	Rosa	Household s	17-19 October2019	Baseline survey and project's SD impacts	VKS
9.	Coc	Olivia	Household s	17-19 October2019	Baseline survey and project's SD impacts	VKS
10.	Sian	Ligia	Household s	17-19 October2019	Baseline survey and project's SD impacts	VKS
11.	Coc	Maria Patricia	Household s	17-19 October2019	Baseline survey and project's SD impacts	VKS
12.	Cobsle	Masdalanh	Household s	17-19 October2019	Baseline survey and project's SD impacts	VKS
13.	Coc	Cirila Jacob	Household s	17-19 October2019	Baseline survey and project's SD impacts	VKS
14-22	Various	Stakeholders	NGOs and stakeholders participated in the LSC	17-19 October2019	LSC Feedback	VKS

SECTION D. Validation findings

D.1. Description of project activity

Means of validation	Document Review, Interview
Findings	CL-01 has been raised and satisfactorily closed.

Conclusion	The PDD /01/ contains a description, which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation. The location of the project activity is clearly defined in the PDD /01/. Project involves distribution of improved cook stoves to replace inefficient traditional 3 stone and “polleton” open fires in rural and peri-urban areas. The project will also provide water purification devices /10/, /17/, /20/ that will increase access to safe drinking water and reduce the need to boil for sanitation. As per the PDD /01/, the project will continue to gather user feedback and confirm designs for the most appropriate improved cookstove models for Guatemalan contexts, but will start with and scale the distribution of efficient “plancha” stoves designed in conjunction with local Guatemalan households and made locally in Guatemala by EcoComal. The project’s improved wood stoves can cut down the daily fuel consumed thus reducing indoor air pollution and necessitating fewer trips to collect fuel per week. The project activity will also involve distribution of water purification technologies which have the potential to improve the microbial quality of drinking water and reduce the risk of diarrheal disease and death in Guatemala, particularly among children. Water purification products also avoid the need to boil, reducing greenhouse gas emissions. The project will provide access to safe water through the distribution of water purification technologies that removes all bacteria from contaminated water through a gravity-fed ceramic filter. The project will begin with local manufacturer and distributor Ecofiltro, which is partnered with NGOs operating throughout the country for training and distribution. Ecofiltro is also in charge of distribution and sales through their on-field Sales team. Validation team during the on site visit has assessed /15/ that each of the project cookstove and water purification product sold is assigned with an unique identification number so as to demonstrate that the technology is a part of the project activity. The unique identification information will be electronically archived in the Project Database /17/, /20/ and so that the information can be made available for VVB during verifications. Validation team during the on-site inspection interviews could confirm that the distinction of sales for the carbon credits project is carried out with the use of a different code of invoices, compared to sales outside the project. Based on review of the project database /17/, /20/, validation team confirms that the project has delivered an approximate of 124,000 filters all over the first crediting period (most of them as replacement units). As per the PDD /01/, the project is reducing 175,243tonnes of annual average CO₂ and 876,217tonnes of CO₂ during the 5 years crediting period. The start date of the project activity is 01/01/2013, during the first crediting period. The start date of the second crediting period is 01/01/2020. The crediting period is in line with the Community Services Activity Requirements.
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D.2. Application of selected baseline and monitoring methodology and selected standardized baseline

D.2.1. Applicability of methodology and standardized baseline

Means of validation	Document Review, Interview
Findings	--
Conclusion	Please refer to the assessment in Appendix 5 of the VR.

D.2.2. Deviation from methodology

Means of validation	Document Review, Interview
Findings	--
Conclusion	N/A

D.2.3. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	N/A
Findings	--
Conclusion	N/A

D.2.4. Project boundary

Means of validation	Document Review, Interview
Findings	--
Conclusion	The project boundary of the project activity has been identified in accordance with the methodology Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1/B01/. The project boundary, target areas, and fuel collection area are defined nationally as the country of Guatemala. The project boundary as identified in the PDD /01/ was also checked and compared with the actual project activity during the site visit and confirmed to be correct. The identified boundary has been confirmed by conducting the site visit to check the technology used.

D.2.5. Establishment and description of baseline scenario

Means of validation	Document Review, Interview
Findings	CAR-01 had been raised and satisfactorily closed.
Conclusion	Validation team confirms that the baseline scenario opted by the project activity /01/ is in accordance with the requirements of the applied methodology, Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1/B01/. Validation team confirms that a baseline survey /03/ (during the previous monitoring period) has been conducted by the project participant. This baseline survey /03/ was assessed by the validation team based on acceptance sampling during the on-site inspection. Based on the review of revised PDD /01/ and on-site inspection, validation team confirms that the baseline scenario (use of non renewable woody biomass for cooking and boiling of water) of the project is still valid during the 2nd crediting period. Please also refer to the closure of CAR-01.

D.2.6. Demonstration of additionality & Ongoing financial need

Means of validation	Document Review, Interview
Findings	--
Conclusion	Validation team based on above confirms that demonstration of additionality is not applicable for the project under consideration for renewal of the crediting period. Moreover, validation team also noted that as per Community Services Activity Requirements (Version 1.1), paragraph 2.5.2 /B02/: “Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification: (a) Positive list (Annex B) (b) Projects located in LDC, SIDS, LLDC (c) Micro-scale projects Validation team confirms that the project activity meets the criterion (A) “Positive List” refer section 1.1.3 of annex B which states that the Project activities solely composed of isolated units where the users of the technology/measure are households or communities or institutions and where each unit results in ≤ 600 MWh of energy savings per year or ≤ 600 tonnes of emission reductions per year. – which is the case for the project under consideration.

	The Community Services Activity Requirements /B02/ include end-use energy efficiency projects, under which the project activity falls. Assessment of Ongoing financial need As per the PDD /01/, Ecofiltro has used carbon credit revenues to finance the delivery of the filters that are part of the project and to increase the production capacity of the factory as well as to maintain the same filter cost. During the on-site inspection interviews, it was also confirmed by representative of Ecofiltro that the end users of the technology, pay a fairly low price for the value of the filter, subsidized by carbon credits and is delivered free of charge exclusively to their home or community. It was during this interview, further confirmed by Ecofiltro that during 2016, Ecofiltro set the goal of reaching 1 million rural families and providing them with clean water to drink. The factory at that time had a very limited production capacity, the carbon credit income was used to double the production capacity of water filters. Validation team based on interviews with Ecofiltro is in the opinion that the carbon offset revenue is a vital source of income for the project for its continued operation as well as to continue to offer the technology at subsidized prices and free delivery to the end users of the project. Based on qualitative demonstration in the PDD and assessment above, validation team confirms that the project complies with the requirements of the guideline in section 4.1.52 of the GS4GG principles and requirement.
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D.2.7. Emission reductions

Means of validation	Document Review, Interview
Findings	--
Conclusion	According to the applied methodology /B01/, emission reductions /02/ would be calculated as follows: ER Crediting for Project Scenario 1 (hh-wt): Household Water Treatment Baseline Scenario Fuel Consumption Calculation The total safe water consumed in the project scenario is the amount of safe water supplied by the project technology and consumed in the project scenario (defined as $Q_{p,y}$), plus the amount of raw water boiled after introducing the project technology (defined as $Q_{p,rawboil,y}$). As stated in PDD section B.4, the project chooses to use the default value (4 L/p/d) for both water volumes needed. Therefore, the definition of $Q_{p,y} + Q_{p,rawboil,y}$ has been revised to be the total amount of raw water treated with the 'zero or low emissions' water treatment technology for household drinking water, hand washing and food washing. This total is assumed to be equivalent to water boiled in the baseline. $B_{p,y} = \text{Number of person-days} \times \text{Baseline Fuel used to Treat Water (T/L)} \times \text{Total Raw Water treated with water treatment technology in project scenario (L/p/d)}$ $B_{b,y} = (1 - C_j) * N_{p,y} * W_{i,y} * (Q_{j,y} + Q_{j,rawboil,y})$ (1) Where: $N_{p,y}$ Number of person-days consuming water supplied by project scenario p through year y

C _j	Expressed as a percentage, this is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it
B _{b,y} year y in tons	Quantity of fuel consumed in baseline scenario b during the year y in tons
Q _{p,y}	Quantity of raw water treated with water treatment technology j and used for hygienic purposes in the project scenario p and supplied by project technology per person per day, default value of 4 L/p/d
Q _{p,rawboil,y} person per day	Quantity of raw water boiled in the project scenario p per person per day
W _{b,y}	Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b during project year y, as per Baseline Water Boiling Test.

Project Scenario Fuel Consumption Calculation

$B_{p,y}$ = Number of person.days x Project Fuel used to boil water (T/L) x Total volume of water boiled in project scenario (L/p/d)

$$B_{p,y} = (1 - C_j) * N_{p,y} * W_{b,y} * (Q_{p,rawboil,y} - Q_{p,cleanboil,y}) \quad (2)$$

Where:

N _{p,y}	Number of person.days consuming water supplied by project scenario p through year
C _j	Expressed as a percentage, this is the portion of users of the project technology j or who in the baseline were already consuming safe water without boiling it
B _{p,y}	Quantity of fuel consumed in project scenario p during the year y in tons
Q _{p,rawboil,y}	Quantity of raw water boiled in the project scenario p per person per day
Q _{p,cleanboil,y}	Quantity of treated water still boiled and used for hygienic purposes in the project scenario p per person per day
W _{p,y}	Quantity of wood fuel or fossil fuel in tons required to treat 1 litre of water using

technologies representative of the project
scenario p during project year y

Emission Reductions

$$BE_{b,y} = B_{b,y} * ((f_{NRB,b,y} * EF_{b,fuel, CO2}) + EF_{b,fuel, nonCO2}) * NCV_{b, fuel}$$

$$PE_{p,y} = B_{p,y} * ((f_{NRB,p,y} * EF_{p,fuel, CO2}) + EF_{p,fuel, nonCO2}) * NCV_{p, fuel}$$

Where the parameters are defined as in equations 1 and 2 above.

The overall GHG reductions are calculated as follows:

$$ER_{y, hh-wt} = (\sum BE_{b,y} - \sum PE_{p,y}) * U_{p,y} - \sum LE_{p,y} \quad (3)$$

Where:

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

ER Crediting for Project Scenario2 (hh-ics): Household Improved Cookstoves

Crediting for the Household Improved Cookstoves

When the baseline fuel and the project fuel are the same and the baseline emission factor and project emission are considered the same, the overall GHG reductions achieved by the improved cookstoves in the project activity in scenario 2, year y are calculated as follows:

$$ER_{y, hh-ics+wt} = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,b,i,y} * NCV_{b,fuel} * (f_{NRB,b,y} * EF_{fuel, CO2+EF_{fuel, nonCO2}})) - \sum LE_{p,y} \quad (4)$$

Where:

$\sum_{b,p}$ Sum over all relevant (baseline b/project p) couples

$N_{p,i,y}$ Cumulative number of project technology-days included in the project database for project scenario p for technology i against baseline scenario b in year y

$U_{p,i,y}$ Cumulative usage rate for technologies in project scenario p, for technology i, in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)

$P_{p,b,y}$ Specific fuel savings for an individual technology of project p against an individual technology of baseline b in year y, in tons/day, as derived from the statistical analysis of the data collected from the field tests

$f_{NRB,b,y}$ Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)

$NCV_{b,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.015 TJ/ton)
$EF_{b,fuel,CO2}$	CO2 emission factor of the fuel that is substituted or reduced. 112 tCO2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{b,fuel,nonCO2}$	Non-CO2 emission factor of the fuel that is reduced
$LE_{p,i,y}$	Leakage for project scenario p, technology i, in year y (tCO2e/yr)

When the baseline fuel and the project fuel are different and/or the emission factors are different, the overall GHG reductions achieved by the improved cookstoves project activity in year y are calculated as follows:

$$ER_{y, hh-ics+wt} = \sum_{b,p} N_{p,y} * U_{p,y} * (f_{NRB,b,y} * ER_{b,p,y, CO2} + ER_{b,p,y, non-CO2}) - \sum LE_{p,y} \quad (5)$$

Where:

$\sum_{b,p}$	Sum over all relevant (baseline b/project p) couples
$N_{p,i,y}$	Cumulative number of project technology-days included in the project database for project scenario p, for technology i, against baseline scenario b in year y
$U_{p,i,y}$	Cumulative usage rate for technologies in project scenario p, technology i, in year y, based on cumulative adoption rate and drop off rate (fraction)
$ER_{b,p,y, CO2}$	Specific CO2 emission savings for an individual technology of project p against an individual technology of baseline b in year y, in tCO2/day, and as derived from the analysis of the data collected from tests and/or literature
$ER_{b,p,y, non-CO2}$	Specific non-CO2 emission savings for an individual technology of project j against an individual technology of baseline b in year y, converted in tCO2/year, and as derived from the analysis of the data collected from tests and/or literature
$f_{NRB,b,y}$	Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)
$LE_{p,i,y}$ (tCO2e/yr)	Leakage for project scenario p, for technology i, in year y

If statistical analysis is performed on a single data set obtained from performance field tests in the project scenario, then the baseline emission calculations are conducted as follows:

$$BE_{b,y} = B_{b,y} * ((f_{NRB,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,nonCO2}) * NCV_{b,fuel} \quad (6)$$

Where:

$BE_{b,y}$	Emissions for baseline scenario b during the year y in tCO2e
$BNB_{b,y}$	Quantity of fuel consumed (excluding fuel used for purifying water by boiling- "NB") in baseline scenario b during year y, in tons, as per-default factors ²⁴ (cases with project performance field test only)
$f_{NRB,,y}$	Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)

NCV_{b,fuel} (IPCC) Net calorific value of the fuel that is substituted or reduced
default for wood fuel, 0.015 TJ/ton)

EF_{b,fuel,CO2} CO₂ emission factor of the fuel that is substituted or reduced.
112 tCO₂/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel

EF_{b,fuel,nonCO2} Non-CO₂ emission factor of the fuel that is substituted or reduced

And:

$$BNB_{b,y} = N_{p,y} * PNB_{b,y}$$

(7)

Where:

N_{p,i,y} Project technology-days in the project database for project scenario p, technology i, through year y

PNB_{b,y} Quantity of fuel consumed (excluding fuel used for purifying water by boiling- "NB") in project scenario p during year y, converted to tons/day

Project emission calculations are conducted as follows:

$$PE_{p,y} = BNB_{p,y} * ((f_{NRB,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel} \quad (8)$$

Where:

PE_{p,y} Emissions for project scenario p during year y in tCO₂e

BNB_{p,y} Quantity of fuel consumed (excluding fuel used for purifying water by boiling) in project scenario p during year y, in tons, and as derived from the analysis conducted on the data collected during the project performance field tests (cases when no baseline performance field test are performed, e.g. by-default baseline factors)

f_{NRB, y} Fraction of biomass used during year y that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)

NCV_{p,fuel} Net calorific value of the project fuel (IPCC default for wood fuel, 0.015 TJ/ton).
This is equal to the baseline fuel NCV in projects which use the same fuel.

EF_{p,fuel,CO2} CO₂ emission factor of the project fuel. This is equal to the baseline fuel EF in projects which use the same fuel, 112 tCO₂/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel

EF_{p,fuel,nonCO2} Non-CO₂ emission factor of the project fuel. This is equal to the baseline fuel EF in projects which use the same fuel.

Therefore, the household Improved Cookstove GHG reductions (excluding fuel use for purifying water by boiling) are calculated as follows:

$$ER_{y, hh - ics + wt} = (\sum BE_{b,y} - \sum PE_{p,y}) * U_{p,i,y} - \sum LE_{p,i,y} \quad (9)$$

Where:

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

Total crediting for both the Household Improved Cookstove and Water Treatment Technology

The Overall Household Improved Cookstove and Water Treatment Technology GHG reductions are calculated as follows:

$$ER_{y, dual\ technology} = ER_{y, hh-ics+wt} + ER_{y, hh-wt}$$

The steps taken and the equations and parameters applied in the PDD /01/ to calculate emission reductions comply with the requirements of the selected methodology. The emission reduction calculation is completely traceable and verified by reviewing the ER spread sheet /02/ submitted by the PP.

D.2.8. Monitoring plan

Means of validation	Document Review, Interview
Findings	--
Conclusion	The outcome for SDG 13 will be quantified as CO₂ emission reductions by applying the GS TPDDTEC methodology. The SDG 13 outcome will be certified as 'Certified SDG 13 Impact Statement' allowing the generation of carbon credits (VERs). The other SDG impacts of this project activity (SDG 1, SDG 3, SDG 5 and SDG 6) will not be certified as 'Certified Impact Statements' and therefore, for these SDG impacts no specific methodologies for estimation and monitoring will be applied. Section B.7.1. of the PDD /01/ outlines how SDG 1, SDG 3, SDG 6, SDG 7, SDG 8, SDG 12 and SDG 15 will be monitored. As per the PDD /01/ the monitoring activity provides a framework for project preparation and monitoring processes that will be undertaken, as required by the GS rules. This schedule takes into account the key parameters that are needed during the crediting periods of the project. All required monitoring and documentation will be implemented, reported, consolidated and managed by the project proponent or a qualified expert partner to meet verification requirements. The following is a summary of baseline and project studies that are undertaken for the monitoring and evaluation of the project and calculation of emission reductions. Baseline & Project Fuel Tests (FTs) The baseline and project performance field tests (BFT and PFT) measure real, observed technology performance in the field. The FTs will be undertaken by using either testing a paired sample (baseline and project performance measured for same subjects) or by independent sampling (different subjects, and usually different sample sizes, for baseline and project scenarios); where applicable a single sample test may be conducted. <u>FT Sampling Design</u>

- i. *Sampling Method:* Both the BFT and PFT households will be chosen using appropriate sampling techniques that are random and representative.
- ii. *Sample Size and Desired Precision:* Sample size will be sufficient to meet 90/30 confidence/precision (90/10 for single sample tests). The lower bound of the one-sided 90% confidence interval may optionally be used as an alternative to the 90/30 rule.
- iii. *Sampling Frame:*
 - a. *BFT:* Representative households within the project boundary using biomass fuel in
- iv. unimproved stoves for the purposes of domestic use
 - b. *PFT:* Project Database as defined by sales date, appliance type, serial number, and end-user information.

Monitoring Surveys (MS)

Monitoring surveys provide critical information on trends in end user characteristics (project surveys, PS), leakage assessment (LA) and water quality (WQ). Project Survey data will be used to confirm that the household characteristics identified and parameters fixed per the baseline study are still representative of the technology end-users in the project scenario.

MS Sampling Design

- i. .
- ii. *Sampling Method:* households will be chosen using appropriate statistical sampling techniques that ensure random and representative results
- iii. *Sample Size:*
 - o Group size <300: Minimum sample size 30 or population size, whichever is smaller
 - o Group size 300 to 1000: Minimum sample size 10% of group size
 - o Group size > 1000 Minimum sample size 100
- iv. *Sampling Frame:* For PS and WQ the sampling frame is drawn from the Project Database as defined by sales date, appliance type, serial number, and end-user information. Sampling frame for LA will be determined according to leakage type.
- v. *Frequency:* PS and WQ completed annually, LA completed every other year.

Project Technology Usage Survey: [Parameter Uy] estimates the percentage of project technologies still in use within the sales population. The usage survey provides a single usage parameter that is weighted based on drop off rates that are representative of the distribution of stove vintages in the total sales record. A minimum of 50% of usage surveys will be confirmed by visual inspection.

Frequency: Completed at least every 2 years.

Baseline Water Boiling Test (BWBT)

The baseline water boiling test (BWBT) is conducted to calculate the quantity of fuel required to purify by boiling one litre of water for 10 minutes using technologies and fuels representative of the baseline scenario (Wb,y). The BWBT was conducted in 2015 by The Monitoring and Verification team on-site the two most used baseline stoves typical of Guatemala (findings of the Baseline Survey). Average results from the two baselines stoves tests meet the 90/30 rule for selection samples and therefore are statistically valid according to the GS methodological requirements.

Data & Implementation

The source of data is based on the sales of project stove and water treatment technologies up to the date when monitoring is conducted. Monitored data will be

	stored in a suite of monitoring databases including the Total Sales Record, the Project Database, and the Stove Monitoring Database. These will be updated each monitoring period. All data monitored and required for verification and issuance are to be kept for a minimum of two years after the end of the crediting period or the last issuance of VERs for this project activity, whichever occurs later. Total Sales Record: [Parameter Np,y] the project activity will have a Total Sales Record that records each project stove or water treatment technology crediting in the project activity. The record will be kept electronically and/or in paper records and provided at verification. The sales record will contain the following information: Non-Renewable Biomass Assessment Update: The non-renewable biomass fraction is fixed based on the results of the NRB assessment. Over the course of a project activity it may at any time choose to re-examine renewability by conducting a new NRB assessment. In case of a renewal of the crediting period the NRB fraction will be reassessed as any other baseline parameters and updated in line with most recent data available. Validation team confirms that the monitoring plan complies with the requirements of the methodology, Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1/B01/, the monitoring arrangements described in the monitoring plan are feasible within the project design and that the PP is able to implement the described monitoring plan. Validation team further confirms that all the ex-post monitoring parameters (Carbon as well as SD monitoring parameters) has been approved by GS during the transition of the project in GS4GG /08/ and thus acceptable.
--	--

D.3. Duration and crediting period

Means of validation	Document Review, Interview
Findings	--
Conclusion	The implementation status of the project activity has been provided to the validation team. The start date of the second Crediting Period will be January 1st 2020, immediately after the end of the first Crediting Period/01/. Start date of the crediting, expected operational lifetime and duration of the crediting period, have been provided in the PDD/01/; checked and found appropriate to the validation team. The crediting period is in line with the Community Services Activity Requirements.

D.4. Environmental impacts

Means of validation	Document Review, Interview
Findings	NA
Conclusion	No EIA is required for the project activity.

D.5. Local stakeholder consultation

Means of validation	Document Review, Interview
Findings	CAR-02 had been raised and satisfactorily closed.
Conclusion	Validation team based on document review /13/ and on-site inspection interview confirms that Ecofiltro opted to conduct a complementary stakeholder consultation electronically. As NGOs and stakeholders related to the project has been the same groups involved since the start of the project, Ecofiltro has elected to not do any physical meeting.

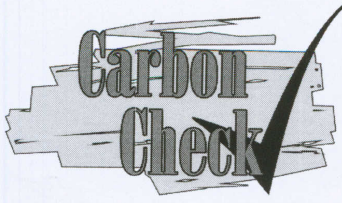
SECTION E. Internal quality control

The final validation report has passed a technical review and quality review before being submitted to the project participant and Gold Standard. The technical review was performed by a technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification.

Appendix 1. Abbreviations

Abbreviations	Full texts
BAU	Business as Usual
CA	Corrective Action / Clarification Action
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CER	Certified Emission Reduction
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DR	Document review
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
EI	External individual
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GHG	Greenhouse gas(es)
GS4GG	Gold standard for global goals
I	Interview
IPCC	Intergovernmental Panel on Climate Change
IR	Internal resource
MW	Mega Watt
PDD	Project Design Document
PP	Project Participant
OSV	On Site Visit
QC/QA	Quality control /Quality assurance
SS	Sectoral Scope
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
VVB	Validation and Verification Body

Appendix 2. Competence of team members and technical reviewer



Carbon Check (India) Private Ltd.

Vikash Kumar Singh

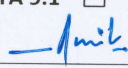
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

For following functions:

Validator	☒	Team Leader	☒	Technical reviewer	☒
Verifier	☒	Technical Expert	☒	Local Expert ¹	☒

In the following Technical Areas:

TA 1.1	☐	TA 3.1	☒	TA 5.2	☐	TA 9.2	☐	TA 13.2	☒
TA 1.2	☒	TA 4.1	☒	TA 8.1	☐	TA 10.1	☐	TA 14.1	☐
TA 2.1	☐	TA 5.1	☐	TA 9.1	☐	TA 13.1	☒		



Mr. Amit Anand
CEO

Date of Approval
24/12/2018

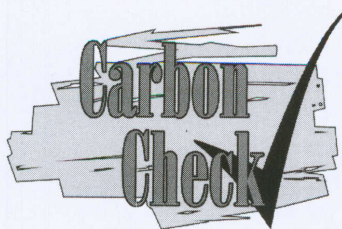
Valid Till
23/12/2019

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2016	Annual Revision
24/12/2017	Annual Revision
24/12/2018	Annual Revision

¹ India, South Africa

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Corporate off: G 49 & 50, 3rd Floor, Sector - 3, NOIDA (Uttar Pradesh) - 201301
Tel: +91 120 4373114 | URL: www.carboncheck.co.in
e-mail: info@carboncheck.co.in



Carbon Check (India) Private Ltd.

Sanjay Agarwalla

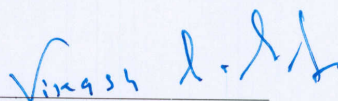
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

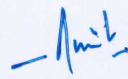
For following functions:

Validator	☒	Team Leader	☒	Technical reviewer	☒
Verifier	☒	Technical Expert	☒	Local Expert ¹	☒

In the following Technical Areas:

TA 1.1	☒	TA 3.1	☒	TA 5.2	☒	TA 9.2	☒	TA 13.2	☐
TA 1.2	☒	TA 4.1	☒	TA 8.1	☐	TA 10.1	☐	TA 14.1	☐
TA 2.1	☒	TA 5.1	☒	TA 9.1	☒	TA 13.1	☒		


Mr. Vikash Kumar Singh
Compliance Officer


Mr. Amit Anand
CEO

Date of Approval
24/12/2018

Valid Till
23/12/2019

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
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Corporate off: G 49 & 50, 3rd Floor, Sector - 3, NOIDA (Uttar Pradesh) - 201301
Tel: +91 120 4373114 | URL: www.carboncheck.co.in
e-mail: info@carboncheck.co.in

Appendix 3. Documents reviewed or referenced

Ref no.	Reference Document
/01/	a) PDD, version 1.0, dated -01/10/2019 b) PDD, version 2.0, dated -04/11/2019 c) PDD, version 6.0, dated 17/01/2020
/02/	Emission reduction estimation spread sheet
/03/	a) Baseline Survey Analysis b) BWBT Field Report GS1321 c) BWBT Field Data GS1321 Iss 2_20150518
/04/	a) F _{NRB} Assessment report b) Non-Renewable Biomass Assessment calculation spread sheet c) Evidences for the data used for F _{NRB} calculation
/05/	Contract dated 26/08/2019 between VVB and Natural Capital Partners for renewal of crediting period of the project.
/06/	Email from GS dated 22/08/2019 clarifying default values of methodology can be used without having the need to conduct any WCFT
/07/	Validation report during registration of the project activity
/08/	a) 101.5-Transition-Annex-GS1321 b) GS1321-GS4GG_Transition_Review comments and closure
/09/	Certified Cemex Eko-estufa Results V2- Thermal efficiency results from Burn Design Lab
/10/	ECOFILTRO TECHNICAL DESCRIPTION
/11/	Microbial test report of purified water from an ISO 17025 accredited laboratory (Solucioanes Analiticas)
/12/	Template end user Registration Form
/13/	Copy of email sent to Stakeholders for the consultation at the time of renewal of crediting period
/14/	Verification report of the issuances during first crediting period.
/15/	Snapshot of ICS and water filter as an evidence of Serial number/unique identification.
/16/	Annex 23 - ODA Letter.pdf
/17/	a) Ecofiltro Database Updated Oct2019 b) TSR Ecofiltro Updated Oct2019
/18/	Ecofiltro_Operations_Manual
/19/	MONITORING PLAN and M&E Training

/20/	Stoves Database Updated Apr2019
/21/	Literature review (Research Paper and Journals) submitted by PP in response to CL-01: a) Insights on thermal efficiency analysis for the water boiling test b) Cooking Efficiently 3-stone fires, biomass & hobs Permaculture magazine
/22/	Evidence submitted in response to CAR-02: Ncuesta Nacional de Salud Materno Infantil 2014-2015
/23/	- Contract between Stove Capital, LLC ("Stove Capital") and EcoFiltro S.A. ("Ecofiltro") dated 20/12/2018 - Contract between Ecomal SA ("Ecomal") and EcoFiltro S.A. ("Ecofiltro") dated 15/01/2020

Background documents:

Ref no.	Reference Document
/B01/	Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1
/B02/	Community Services Activity Requirements (version 1.1) under GS4GG https://globalgoals.goldstandard.org/200-gs4gg-community-services-activity-requirements/
/B03/	1. Law to Prevent, Punish and Eradicate Domestic Violence (Decree 97-96): 2. Law Against Femicide and Other Forms of Violence Against Women (Decree 22-2008): 3. Law against Sexual Violence, Exploitation and Trafficking in Persons (Decree 09-2009): 4. Law of Integration and Integral Promotion of Women (Decree 07-99): 5. Social development law (decree 42-2001):

Appendix 4: Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

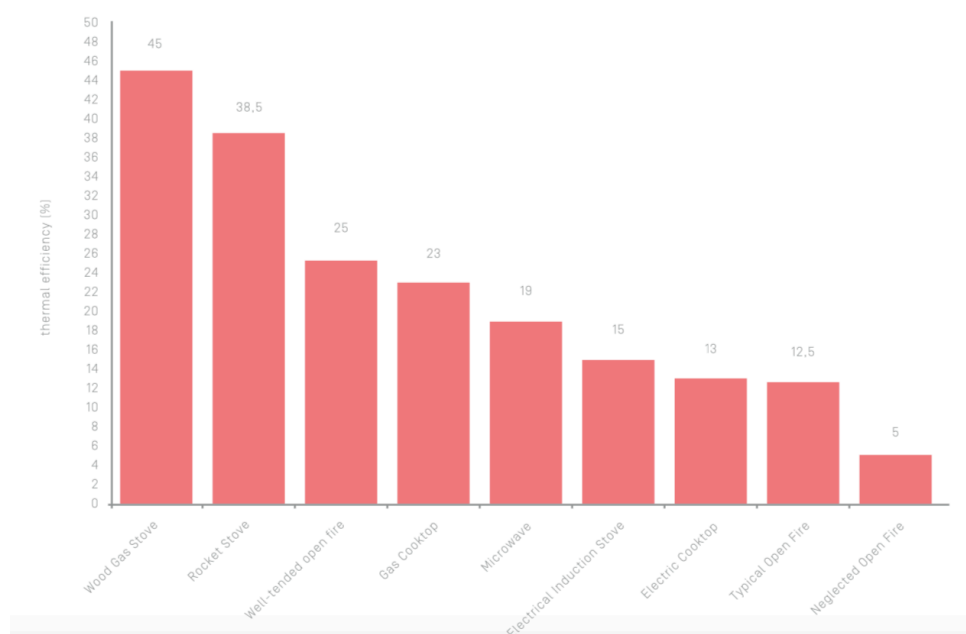
CL ID	01	Section no.	Date: 31/10/2019
Description of CL			
As per the PDD, the thermal efficiency of Ecostove is 15.4 %. Project Participant is requested to clarify as how this qualify and generate emission reduction. While doing so please also refer to the foot note 24 of the applied methodology, where even the more advanced baseline stoves could have 20% thermal efficiency.			
Project participant response			Date: 04/11/2019
It is pertinent to mention that the 15.4% of thermal efficiency for the Ecostove was a test result done in a laboratory in California through a WBT, and the value is for a Cold Start test and therefore is not representative of the main cooking practices in Guatemala or the environment of rural households. The PP has not replicated this laboratory test because this will not impact on emission reductions directly, the PP has followed and will continue to use the GS Methodology request on using Kitchen Performance Tests to assess wood savings, and therefore, emission reductions.			

The PP has always followed the protocol looking for transparent results, and as can be seen in the table below, wood consumption has been very similar in every issuance, and has been accepted for 6 years of performing the field tests.

Issuance	Wood Savings/KPT Value (Kg/day)	Statistical Precision
1	3.77	7%
2	5.45	6%
3	5.93	7.91%
4	5.15	9%

According to several studies, the WBT is not an adequate method for measuring fuel savings. In 2016 IEEE Global Humanitarian Technology Conference (GHTC) gave the conference called **Insights on thermal efficiency analysis for the water boiling test**, where this information can be found: "There is a lack of applicability that the WBT has on tasks other than boiling water. This lack of applicability will vary in importance depending on the most common meals cooked in a specific part of the world. While many dishes are very similar to boiling water (such as soups, stews, etc), there are also many dishes that are not very similar to boiling such as tortillas, beans and other flatbreads".

Quoting the Technical brief in Cookstoves & Energy Efficiency from the Energy and Environment Partnership, "The human behaviour directly influences the performance of the multi-variable cooking operation. The energy efficiency of a clean cookstove is not only device dependent, but is significantly influenced by the user's fuel measurements and operation. As it is demonstrated in the following figure, which indicates the significant efficiency difference between a well-tended open fire (25% efficient) compared to a neglected three-stone fire (5% efficient). Given that cookstove efficiency is usage-dependent, some tests advocate efficiency measures for cooking typical dishes. Heterogeneous Testing Protocols refer to testing a device at all the power levels with different sized pots of water. These protocols are modelled on culturally appropriate cooking practices".



According the Partnership for Clean Indoor Air "Well-constructed three-stone fires protected from wind and tended with care scored between 20 and 30% thermal efficiency. Open fires made with moister wood and operated with less attention to the wind can score as low as 5%. The operator and the conditions of use largely determine the effectiveness of operation. If the sticks of wood are burnt at the tips and pushed into the center as the wood is consumed, the fire can be hot and relatively clean burning."

In Guatemala the most common three stone fire is a neglected one, not taking care about wind nor protecting the fire from it, and also without having a spot to dry wood, people will tend to use damp wood, reducing efficiency. This will mean that the Thermal Efficiency may well be less than 10%, and as low as 5% according to the studies mentioned above.

As seen by our project monitoring in the field, people tend to maintain the heat and the project stove running for the entire day, which ensures to every family that the iron is always hot and ready to use. According to the results of the project surveys, 66% of the households surveyed report that they make 5 meals every day, including a morning and afternoon snack. And other 7% cooks one snack either in the morning or in the afternoon. In this way the stove is running and being used for the entire day, improving efficiency and suggesting that a single cold-start WBT is not representative of the way people cook and use their stoves in Guatemala.

The combustion chamber of the project stove was designed to insulate heat and reduce wood consumption and combining these qualities and other variables involved like wood type and the extent to which wood is dried can greatly influence the efficiency. But as stated before, the only way to account for all these variables including the way people cook, the length of time the stove is used, the type and moisture content of the wood and the type of meals prepared is the Kitchen Performance test. A simple water boiling test does not capture this complexity and cannot by itself be considered a good predictor of likely wood savings in the field.

The Ecostove design is a modified version of the 'Onil' improved cookstove. Since its inception the main component of the stove has been the combustion chamber, designed to be more efficient in wood burning.

The Maya Relief Foundation created the Ecostove from the Onil design with some differences designed to obtain higher efficiencies:

- A grate for ash clearing from the combustion chamber, this clearance boosts efficiency and eases usability.
- A 30% larger cooking surface.
- One piece metal cooking surface, which allows for better heat transfer front-back.

Whilst we do not have water boiling tests for the EcoStove using a hot start mode, tests results by Aprovecho for the previous generation Onil stove are publicly available. The Onil stove achieves a 26% thermal efficiency in the hot start mode, see below:

Stove type/model	Helps ONIL stove	Total Emissions		Specific Emissions (per liter water) (corrected for moisture content and initial water temp)	
Location	Aprovecho				
Wood species	douglas fir				
Wind conditions	none			Correction Factor	
					0.0827
1. HIGH POWER TEST (COLD START)	units	Test 1	Phase 1 (cold start)		
Time to boil Pot # 1	min	29	Totals	CO	3.9000 gr/liter
Burning rate	g/min	34.55	CO	CO2	163.4808 gr/liter
Thermal efficiency	–	0.20	HC(propane)	HC(propane)	0.1332 gr/liter
Specific fuel consumption	g/liter	129.25	appx PM mg	appx PM mg	8.8627 gr/liter
Temp-corrected specific consumption	g/liter	107.12	CO/CO2ratio		
Firepower	watts	11090	Flame Temp		
			Phase 2 (hot start)		
2. HIGH POWER TEST (HOT START)	units	Test 1	Totals	CO	1.9569 gr/liter
Time to boil Pot # 1	min	23	CO	CO2	128.2684 gr/liter
Burning rate	g/min	32.79	HC(propane)	HC(propane)	0.1089 gr/liter
Thermal efficiency	–	0.26	appx PM mg	appx PM mg	7.2716 gr/liter
Specific fuel consumption	g/liter	98.81	CO/CO2ratio		
Temp-corrected specific consumption	g/liter	83.08	Flame Temp		
Firepower	watts	10527	Phase 3 (simmer)		
3. LOW POWER (SIMMER)	units	Test 1	Totals	CO	5.6007 gr/liter
Burning rate	g/min	12.71	CO	CO2	346.6415 gr/liter
Thermal efficiency	–	0.16	HC(propane)	HC(propane)	0.5444 gr/liter
Specific fuel consumption	g/liter	142.48	appx PM mg	appx PM mg	26.5504 gr/liter
Firepower	watts	4081	CO/CO2ratio		
Turn down ratio	–	2.58	Flame Temp		
					0.2371

The PP is clear that both concrete stoves are very similar and that the 26% of thermal efficiency is more aligned with what is expected from the Ecostove.



Onil Stove



Ecostove

Whilst the PP does not support the evaluation of emission reductions simply based on the thermal efficiency (due to the limitations of the WBT as discussed above), nevertheless to address the point made, and using the tested efficiency value of the Onil stove in hot start mode, and assuming an average thermal efficiency of the three stones fire of 7% (mixing the usual three stone fire and the neglected one) the theoretical savings would be very similar to what has been achieved in the project during previous issuances in first crediting period:

$$Savings = 19.77 \text{ kg} * \left(1 - \left(\frac{7}{26}\right)\right) = 14.47 \text{ Kg}$$

$$KPT \text{ Savings} = (19.77 - 5.15) = 14.62 \text{ Kg}$$

The PP concludes the following statements:

- i. The Kitchen Performance Test is the most reliable source for measuring wood consumption and emission reductions, as the protocol minimizes how every variable affect the results.
- ii. The cold start efficiency test is likely to result in a lower efficiency value than can be achieved in the field where stoves are used fairly continuously throughout the day. Using publicly available hot-start efficiency results for a very similar design of stove (Onil) a higher thermal efficiency (26%) is achieved in WBT results, and it is expected that the project stove will have a similar thermal efficiency value in hot start mode.
- iii. Studies indicate the efficiency of three stone fires in water boiling tests can vary greatly, and can be as low as 5% depending on how well tended the fire is.
- iv. The thermal efficiency obtained in the WBT in a laboratory for the project stove of 15.4% is not representative of the real fuel savings of the stove in the field. Measuring the thermal efficiency through a WBT is not sufficient to indicate real fuel savings, due to the number of variables involved, and because of this wood savings should not be accounted using WBT results for thermal efficiency. This is why the methodology calls for kitchen performance tests, and the PP has followed the methodology in its monitoring implementation.

Documentation provided by project participant

Insights on thermal efficiency analysis for the water boiling test copy.pdf

Cooking efficiently three stone fire/ biomass and hobs – Permaculture magazine.pdf

VVB assessment

Date: 21/11/2019

Validation team, based on the above justification by the PP, confirms that the thermal efficiency obtained in the WBT in a laboratory for the project stove of 15.4% is not representative for the project and thus the actual efficiency shall be determined ex-post during the monitoring/verification and thus acceptable to the validation team.
CL is closed.

CAR ID	01	Section no.		Date: 31/10/2019
Description of CAR				
During the on-site inspection interview and provided documents, it has been observed that PP has conducted an electronic LSC during the renewal of crediting period. The details of such LSC including the Grievance mechanism is however missing in the PDD.				
Project participant response				Date: 04/11/2019
Details of the electronic LSC are now presented in the PDD, including the grievance mechanisms for the project.				
Documentation provided by project participant				
PDD Version 2.0 04/11/2019				
VVB assessment				Date: 21/11/2019
PP has provided details of LSC in the section E of the PDD; checked and confirmed by the validation team. CAR is closed.				

CAR ID	02	Section no.		Date: 31/10/2019
Description of CAR				
During the renewal of crediting period, it is expected that PP demonstrates the validity of original baseline scenario. Such demonstration of validity of the original baseline scenario using latest available data is missing in the revised PDD submitted for validation.				
Project participant response				Date: 04/11/2019
The PP has included another National Study prepared by the Guatemalan Ministry of Health and the National Statistics Institute called ENSMI. The ENSMI contains the most updated information (released in 2017) about safe drinking water in rural Guatemala. The PDD has been updated, and this new study added confirms the values obtained on the baseline survey. The baseline survey has been verified in every issuance of the first crediting period, and the similarities with National information provides validity on the information presented.				
Documentation provided by project participant				
Ensmi2014_2015.pdf PDD Version 2.0 04/11/2019				
VVB assessment				Date: 21/11/2019
PP has revised details of baseline scenario in the section B.4 of the PDD base on latest available data. The revised PDD along with the source of data has been checked and confirmed by the validation team. CAR is closed.				

Table 3. FAR from this validation

FAR ID	01	Section no.		Date: 09/02/2020
Description of FAR				
<i>The PP is requested to conduct the KPT test for each of the baseline scenario prior to the first verification of 2nd crediting period.</i>				
Project participant response				Date: DD/MM/YYYY
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Documentation provided by project participant				
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VVB assessment				Date: DD/MM/YYYY
This is to be checked in the first verification of the <i>2nd crediting period</i> .				

FARs from previous verifications:

FAR ID	02	Section no.		Date: 09/02/2020
Description of FAR				

<i>(from Deviation request) PD shall reassess the ERs obtained from the adjusted value using a measured value for the same age-groups at the time of next issuance request (MP5). If the issued ERs for 2nd year (MP4) using the adjusted value are more than those using the reassessed, measured value (MP5), PD will be asked to compensate the emission reductions from MP5. If less, no extra emission reductions can be claimed. PP shall note that the Usage Survey requirements will apply for MP5, however, for the purposes of comparing the adjusted value, the cap will not apply.</i>	
Project participant response	Date: DD/MM/YYYY
The project proponent will compare the usage rates obtained with the survey in the MP5 at the moment of request of performance review. If the results are lower than the conservative approach, compensation will be done and will be announced to the Gold Standard in the ERs calculations.	
This FAR was raised from a deviation request from not following the methodology requirements in monitoring. The PP has developed the monitoring plan accordingly since then and is working with a trained MRV Team on the field to complete every activity needed for monitoring the project.	
This FAR won't make any change on the project's monitoring plan.	
Documentation provided by project participant	
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VVB assessment	Date: DD/MM/YYYY
This is to be checked in the first verification of the <i>2nd crediting period</i> .	

FAR ID	03	Section no.		Date: 09/02/2020
Description of FAR				
<i>According to the "Guidelines for carrying out usage surveys for projects implementing household water filtration technologies", the topic on Water storage should be considered when conducting the usage survey.</i>				
Project participant response				Date: DD/MM/YYYY
The PP has added a new set of questions in the usage survey regarding Water storage. One question is to evaluate if the household is using a different container to store filtered water. If the response is positive, the MRV team evaluates if the container is considered safe, using the criteria of the Centers for Disease and Control Prevention. Results will be provided in the Monitoring Report of the MP5 (Last one of the first crediting period).				
The PP has decided not to add any of this data into the monitoring plan, but the variables on water storage will be part of the Monitoring and Usage Survey, for the whole crediting period.				
Documentation provided by project participant				
VVB assessment				Date: DD/MM/YYYY
This is to be checked in the first verification of the <i>2nd crediting period</i> .				

FAR ID	04	Section no.		Date: 09/02/2020
Description of FAR				
<i>The PP is requested to conduct the water quality test quarterly following the "Rule update: Requirements for the quality standards to be met by safe water supply projects submitted prior to 31st January 2014". If the result from MP5 shows that it is more conservative than the applied value for MP4, the ER from MP4 will be adjusted accordingly and be deducted in MP5 issuance.</i>				
Project participant response				Date: DD/MM/YYYY
The PP has continued to conduct water quarterly test every quarter or even often. The rule update has been followed, and as a first standard the National standard on water quality has been followed (COGUANOR 29001). The WQT is and will be part of the monitoring plan of the project.				
Documentation provided by project participant				
VVB assessment				Date: DD/MM/YYYY
This is to be checked in the first verification of the <i>2nd crediting period</i> .				

FAR ID	05	Section no.		Date: 09/02/2020
Description of FAR				
<i>PP shall apply the new usage survey guidelines prior to submission for next verification.</i>				
Project participant response				Date: DD/MM/YYYY

The PP is aware of the new usage survey guidelines and has implemented activities with the MRV Team to obtain a more robust and transparent result of the usage rate calculation. The MRV team has been trained, and they provide training and maintenance to the end-users and technologies on the field. The usage survey includes information like GPS, photos, interviews with the primary cook, etc. The vast majority of activities were already in the monitoring plan, the training was set up, and the only one that was not used during the MP5 is the CSM technology.

Documentation provided by project participant

VVB assessment

Date: DD/MM/YYYY

This is to be checked in the first verification of the [2nd crediting period](#).

Appendix 5: Methodology Applicability

The project applies the Approved consolidated baseline and monitoring methodology Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC), version 3.1/B01/. Applicability criteria for the baseline methodology /B01/ are assessed by the validation team by means of document review and interview. It is agreed in the validation team's opinion that the project activity fully meets the criteria as described below:

Applicability criteria as per methodology /B02/	Means of Validation
This methodology is applicable to programmes or activities introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households and non-domestic premises. Examples of these technologies include the introduction of improved biomass or fossil fuel cookstoves, ovens, dryers, space and water heaters (solar and otherwise), heat retention cookers, solar cookers, bio-digesters, safe water supply and treatment technologies that displace the boiling of water, thermal insulation in cold climates, etc.	As verified during the on-site inspection and review of PDD /01/, validation team confirms that the project activity consists of two technologies /07/, /09/ /10/, that displace and reduce GHG emissions. The Ecostove is an improved stove, which reduces approximately 60% of wood consumption, concerning the baseline stove. The Ecofiltro is a filter that purifies water with zero emissions, displacing the baseline practice of boiling water. This reduces GHG emissions by removing the need to boil water as a form of purification before consumption. Furthermore, as confirmed by reviewing the baseline survey /03/ and on-site interviews, the targeted end-users are households which would use non-renewable biomass to cook and to boil water as a form of purification or are lacking the access to safe drinking water (suppressed demand) in the absence of this project activity. Validation team based on review of PDD /01/ and on-site interview confirms that Natural Capital Partners and Ecofiltro will implement the project. The individual households are not acting as project participants.
The project boundary needs to be clearly identified, and the technologies counted in the project are not included in another voluntary market or CDM project activity (i.e. no double counting takes place). In some cases there maybe another similar activity within the same target area. Project proponents must therefore have a survey mechanism in place together with appropriate mitigation measures so as to prevent any possibility of double counting.	Validation team based on review of PDD /01/ and on-site interview confirms that the project activity is implemented in Guatemala. Details about the project location are provided in section A.4 of the PDD /01/. Validation team based on web-research of carbon registries (CDM, GS, VCS), provided agreements with the with previous project owner and distributors/producers /23/ and unique identification system /15/ on the cook stove and water filters used

	in the project confirms that there are no other such GS projects in the region where the project intervenes, hence no risk of double counting. Thus it can be confirmed that the project boundary is clearly identified, and the technologies counted in the project are not included in another voluntary market or CDM project activity (i.e. no double counting takes place).
Technologies each have a continuous useful energy output of less than 150kW per unit (defines as total energy delivered usefully from start to end of operation of a unit divided by time of operation). For technologies or practices that do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the baseline scenario, the 150kW threshold applies to the displaced baseline technology.	Validation team confirms that the cookstoves promoted by the project deliver thermal energy in the project scenario. Thus, its continuous useful energy output is assessed to ensure each unit implemented has a capacity of less than the maximum 150kW: • Household ecostove average output = 8.95 kW. • The water filters promoted by the project do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the baseline scenario. Thus, the 150kW threshold applies to the displaced baseline technology: Displaced baseline technology (unimproved open fire) = 6.4 kW
The use of baseline technology as backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology (e.g. discounted price for the improved technology) and the definitive discontinuity of its use. The project documentation must provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology. For example, whether the existing baseline technology is not surrendered at the time of the introduction of the improved technology, or whether a new baseline technology is acquired and put to use by targeted end users during the project crediting period. The success of the mechanism put into place must therefore be monitored and the approach must be adjusted if proven unsuccessful. If an old technology remains in use in parallel with the improved technology, the corresponding emissions must be accounted for as part of the project emissions.	Validation team based on review of PDD /01/ and on-site interview confirms that project training and installation encourages the discontinuation/dismantling of traditional technologies. When the use of the baseline technology is used as a backup or auxiliary technology in parallel with the improved technology introduced a mechanism will be put in place to encourage the removal of the old technology and the definitive discontinuity of its use. The following measures as verified during the on site inspection are: • Ongoing kitchen survey monitoring will account for mixed use. • KPT subsumes the use of any traditional stove/fuel used. • Additionally, project participants will sign a contract agreeing to use the project technology on a regular basis according to the instructions given in the training sessions. • Customers are incentivized to remove their old stoves, as part of the warranty of the project stove.

	The above measures encourage the removal of the old technology. The success of this mechanism will be monitored and adjusted if proven unsuccessful.
The project proponent must clearly communicate to all project participants the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. For technology producers and the retailers of the improved technology or the renewable fuel in use, this must be communicated by contract or clear written assertions in the transaction paperwork. If the claimants are not the project technology end users, the end users will need to be informed and notified that they cannot claim for emission reductions from the project.	Validation team reviewed the template carbon waiver agreements /12/ which ensure the transfer of carbon credit ownership from end-users to the project owner .
Project activities making use of a new biomass feedstock in the project situation (e.g. shift from non-renewable to green charcoal, plant oil or renewable biomass briquettes) must comply with relevant Gold Standard specific requirements for biomass related project activities, as defined in the latest version of the Gold Standard rules. If the biomass feedstock is sourced from a dedicated plantation, the criteria must apply to both plantations established for the project activity AND existing plantations that were established in the context of other activities but will supply biomass feedstock.	Validation team based on its sectoral scope knowledge confirms that no biomass feedstock will be used in the project situation and therefore this condition is not applicable.
Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) levels are not worsened compared to the baseline, and greenhouse gases (as listed in section 2.1) emitted by the project fuel/stove combination are estimated with adequate precision. The project fuel/stove combination may include instances in which the project stove is a baseline stove.	Validation team based on its sectoral scope knowledge confirms that the project activity (i.e. distribution of improved cook stoves and water filter) indoor air pollution (IAP) levels are not worsened compared to the baseline. The project proponent has made wood consumption protocols (KPT) during the first crediting period of 7 years. The protocol has validated and presented the reduction of wood consumption by approximately 60%, when using the same fuel (firewood) it is real to say that emissions have reduced by 60% with the use of project technology. The protocols met the required accuracy and were verified by third parties and Gold Standard. The water filter is a technology with zero emissions, so it will not increase air pollution, and will displace emissions from boiling water.
Records of renewable fuel sales may not be used as sole parameters for emission reduction calculation, but may be used as data informing the equations in section 2.0 of this methodology. These records need to be correlated to data on distribution ⁹ and results of field tests and surveys confirming (a) actual use of the renewable fuel and usage patterns (such as average fraction of non-renewable fuels used in mixed combustion or seasonal variation of fuel types), (b) GHG emissions, (c) evidence of CO levels not deteriorating (d) any further factors effecting emission reductions significantly.	Validation team based on review of PDD /01/, confirms that the project has used during the first crediting period the results of the wood consumption protocols, and the surveys to calculate the emission reduction. The monitoring plan and the use of these tools will continue for the second crediting period.

Appendix 6: Sustainability Validation Report

1. Sustainable Development Goals (SDG) outcomes

As per the PDD /01/, the relevant SDG targets are:

SDG	SDG Target
1	1.1 “By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day”
3	3.3 “By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases”
3	“By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination”
6	6.1 “By 2030, achieve universal and equitable access to safe and affordable drinking water for all”
7	7.1 “By 2030, ensure universal access to affordable, reliable and modern energy services”
8	8.5 “By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value”
12	12.2 “By 2030, achieve the sustainable management and efficient use of natural resources”
13	13 “Take urgent action to combat climate change and its impacts”
15	15.1

	“By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements”
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Validation team confirms that above SDG targets has been approved by GS during the transition /08/ of the project in GS4GG and thus acceptable.

2. Safeguarding principle Assessment

PDD has provided GS4GG Safeguarding Principles and Requirements.

Validation team confirms that GS4GG Safeguarding Principles has been approved by GS during the transition /08/ of the project in GS4GG and thus it can be concluded that the DNHA for the project has been conducted appropriately, according to GS4GG requirements, based on accurate information with all the reference sources as indicated in the PDD /01/. Therefore, in CCIPL's opinion the project has no harmful impact according to DNHA.

3. Data and parameters fixed ex-ante

Validation team confirms that all data and parameters fixed ex-ante are either based on survey or default from the methodology and thus acceptable.

Appendix 7: Assessment on project's compliance with 'gender sensitive' requirements

Step	Question	Description in the PDD	Assessment by the Validation team
1	<i>Question 1: Does the project reflect the key issues and requirements of gender-sensitive design and implementation as outlined in the gender policy?</i>	<i>The Gender Policy expresses the Gold Standard's intention and commitment to enhancing and promoting the goals of gender equality, social inclusion and female empowerment within the Secretariat, throughout Gold Standard certifications procedures and as an integrated measure of the social dividends of GS certified projects.</i> The Ecofiltro project reflects the key issues of Gold Standard's Gender Policy, it looks for social inclusion and female empowerment across every stakeholder, internal or external from the company. In rural Guatemala, Ecofiltro works closely with community leaders to present and distribute the technologies, the majority of community leaders are women, provided with training and ensuring social inclusion and female empowerment. Ecofiltro has a non-discrimination and an equal employment opportunity policy that sets forth standards for gender	Validation team during the on-site interviews with stakeholders particularly women confirms that the description in the PDD /01/ in context of this question is justified. In this regard following documents were also reviewed during the on-site assessment: • Records of stakeholder consultation /13/ • Records of sales at Ecofiltro /17/ /20/

		and broader demographic equity in hiring and compensation. Some key stats about female empowerment are presented: • Approximately 50% of Ecofiltro rural distributors employees are female. • 2 out of 5 management positions are being held by female staff. Ecofiltro believes that the distribution of the technologies will empower women, as they will have more time to allocate in productive activities, due to time savings comparing baseline with project scenario. Women represent nearly 80% of the Customer Database of sales obtaining information from 2016-2019. As the technology is open for the public, Ecofiltro is looking to empower women by using the technology and providing employment (sales agents, management positions), The PP concludes that Ecofiltro project is aligned with GS Gender Policy.	
	<i>Question 2: Does the project align with existing country policies, strategies and best practices?</i>	In Guatemala there are several laws and regulations in relation to gender equality, the following are the most important:	Validation team has reviewed /B03/ following documents: a) Law to Prevent, Punish and

		1. Political Constitution of the Republic of Guatemala Article 4: "Freedom and equality. In Guatemala all human beings are free and equal in dignity and rights. Man and woman, whatever their marital status, have equal opportunities and responsibilities ..." 2. Law to Prevent, Punish and Eradicate Domestic Violence (Decree 97-96): In Article 2: "It will regulate the application of protective measures necessary to guarantee the life, integrity, security and dignity of victims of domestic violence. It aims to provide special protection to women, children, young people, the elderly and the elderly and people with disabilities ..." 3. Law Against Femicide and Other Forms of Violence Against Women (Decree 22-2008): In Article 1: "Guarantee the life, freedom, integrity, dignity, protection and equality of all women before the law, particularly when by gender, in relations of power or trust, in the public or private sphere who	Eradicate Domestic Violence (Decree 97-96): b) Law Against Femicide and Other Forms of Violence Against Women (Decree 22-2008): c) Law against Sexual Violence, Exploitation and Trafficking in Persons (Decree 09-2009): d) Law of Integration and Integral Promotion of Women (Decree 07-99): e) Social development law (decree 42-2001): Based on assessment above, validation team confirms that while complying with host country requirements, the project complies with this question/requirement.
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		aggresses , commit against them discriminatory practices of physical, psychological, economic violence or contempt for their rights. ” 4. Law against Sexual Violence, Exploitation and Trafficking in Persons (Decree 09-2009): In Article 2: principle E, emphasizes non-discrimination: "Every victim shall be considered, at any stage of the procedure, be it criminal or special protection, as a victim, regardless of sex, age, gender, religion, ethnicity or any other condition." 5. Law of Integration and Integral Promotion of Women (Decree 07-99): In Article 2: it states that its objectives are: "Promote the integral development of women and their participation at all levels of economic, political and social life in Guatemala"; and "Promote the development of fundamental rights that in relation to the dignification and promotion of women ..." 6. Social development law (decree 42-2001):	
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		In Article 4: "Within the framework of multiculturalism that characterizes the Guatemalan Nation, gender equity, understood as equal rights for men and women, responsible fatherhood and motherhood, reproductive health and healthy motherhood, are basic principles and should be promoted For the state." The project reflects the key issues and requirements of Gender sensitive design. It ensures that the technology will be available for anyone, disregarding gender. The technology will benefit every member of the families using the project technology, and will provide clean water and cleaner energy to fulfill their basic needs and even improve their lifestyle, being able to increase in terms of health benefits and save money for reducing poverty. The project aims to to comply with every gender-related law in the country, the PP is aware that the technology brings benefits in development process without being gender selective in the following way: • Time savings and financial savings	
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		from collecting/buying fuel. • Improved health, and reduce water and indoor air pollution. • Increased income from the reduction on wood usage for boiling water or cooking. As the project is open for the public, and it will bring positive impacts on development, the PP concludes that the project is aligned with Guatemala's National Gender Policy.	
Step 2	<i>Question 3: Does the project address the questions raised in the Gold Standard Safeguarding Principles & Requirements document?</i>	The project has addressed the principles related to Gender equality and Women's right.	Please refer to the assessment under appendix 6 for Safeguarding principle Assessment.
Step 3	<i>Question 4: Does the project apply the Gold Standard Stakeholder Consultation & Engagement Procedure, Requirements & Guidelines</i>	Ecofiltro opted to provide a complementary stakeholder consultation electronically. As NGOs and stakeholders related to the project has been the same groups involved since the start of the project, Ecofiltro has elected to not do any physical meeting. Ecofiltro provides information about the project at the moment of sale and distribution/training, asking to receive feedback and comments from stakeholders. The project proponent followed the new Gold Standard Stakeholder	Validation team based on site inspection interview and document review /13/ confirms that the project adheres to the Gold Standard Stakeholder Consultation & Engagement Procedure, Requirements & Guidelines.

		Consultation & Engagement Procedure, Requirements & Guidelines, and believes that the first Stakeholder consultation was developed with the objective to inform everyone disregarding gender. Ecofiltro believes that every activity, including the first Local Stakeholder Consultation already included the requirements and guidelines specified by Gold Standard for gender equality. In Rural Guatemala, a big percentage of community leaders are women. The project has always been related to gender equality and female inclusion. Trainings provided in every sale, are being done massively in rural communities. In trainings Ecofiltro sales representatives mentions and provides information about the project, explaining the functioning of the project looking for the carbon release waiver signature and any comment or feedback to address.	
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