

ANNEX AK – POA DESIGN CONSULTATION REPORT

CONTENTS¹

A. Programme description

- 1. Name and purpose of the Programme**
- 2. Geographic boundary of the Programme**
- 3. Tentative start date of the Programme**
- 4. Programme eligibility under the Gold Standard**
- 5. Current status of the Programme**

B. Design of Stakeholder Consultation Process

- 1. Description of consultation methods**
- 2. Non-technical summary of the Programme**
- 3. Invitation tracking table**
- 4. Level of consultation**

C. Outcome of the consultation process

- 1. Assessment of comments**
- 2. Summary of design changes based on the stakeholder feedback provided**

¹ This template can be used for micro-scale, small-scale and large-scale PoAs

SECTION A. PROGRAMME DESCRIPTION

A. 1. Name and purpose of the Programme

Micro Energy PoA

The purpose of this Micro Scale PoA is to reduce Green House Gas (GHG) emissions from a range of emissions intensive sources which include: the burning of non-renewable biomass for cooking and water treatment; the generation of electricity, from carbon intensive national grids, local diesel mini-grids & standalone generators; as well as the production of light from the combustion of kerosene in household lamps.

Activities under this Micro Scale PoA fall into two broad categories determined by their respective emissions sources:

- Non-renewable biomass - by improving **Kitchen Regimes** related to cooking and the purification of drinking water households avoid the combustion of carbon intensive non-renewable biomass (*Type II, End-Use Energy Efficiency Improvement*).
- Fossil fuels - by reducing the primary barrier to **Solar PV** technology uptake, this project aims to increase unit sales of this zero carbon technology therefore displacing emissions intensive fossil fuel derived electricity (*Type I, Renewable Energy Supply*).

Kitchen Regimes – Cook Stoves and Water

Biomass, principally firewood and charcoal, holds huge importance in developing countries, accounting for a significant proportion of energy consumption. Biomass is often the predominant source of energy for cooking and water boiling, especially in rural areas. Cooking is generally carried out on thermally inefficient traditional devices and produces large amounts of smoke and indoor air pollution.

The distribution of efficient cook stoves in this Programme will significantly reduce fuel consumption, resulting in an improved living environment for recipients and reduced pressure on local forests, with a reduction in fuel being burnt annually as a result of the project. By reducing fuel consumption, CO₂ emissions from combustion of non-renewable biomass will be correspondingly reduced.

In addition more than 1 billion people worldwide do not have access to safe drinking water and a high percentage these boil their water to purify it for consumption, taking significant amounts of fuel and time. In addition to distributing improved cook stoves, this MS-PoA will also introduce safe water technologies such as water filters and boreholes. Both technologies avoid the need for water to be treated by boiling, equating to a reduction in CO₂ emissions from the combustion of biomass. Boreholes will either be newly installed or repaired and returned to working order but in all cases will be maintained throughout the project life time.

Using the concept of suppressed demand, project developers can also obtain credits by supplying clean water to poorer members of society that are not able to use biomass energy to treat their water (because they cannot afford it, or because the energy is otherwise unavailable to them.) This means that the credits obtained are proportional to the amount of biomass that would have been combusted using traditional technology in order to provide clean water for users. This concept allows

for beneficiaries who would otherwise not benefit from the project to be included and supplied with a safe water source.

Solar PV – On Grid, Off Grid and Lamps

As a zero emissions technology Solar PV has the potential to greatly cut carbon emissions as well as help to improve the livelihoods of communities and families in Africa. However a significant barrier hampering the achievement of this goal is technology cost. This MS-PoA aims to lower unit costs by collaborating with local retailers to subsidise the cost of PV panels and solar lights, their repair programmes and/or bolster their marketing strategy to significantly increase local uptake of clean renewable energy. This POA will act by increasing the competitiveness of PV renewable energy with respect to more emissions intensive, business as usual, scenarios. In addition it will reduce emissions related to portable fossil fuel based lamps (e.g. wick-based kerosene lanterns) by replacing them with battery-charged LED or CFL based lighting systems.

Programme Design

co2balance will act as the Coordinating Managing Entity for the PoA but may involve implementation partners or project participants in some project areas; however, this will be decided on a case-by-case basis as projects are implemented. Organisations interested in working with us are welcome to contact us directly voicing their interest.

Projects within the PoA will be designed on an ongoing basis and may incorporate a single methodology or technology or a combination of methodologies and technologies depending on the conditions in that particular project area. In addition the approach taken with regards to the distribution model will be influenced by local conditions so that in some VPAs technologies will be distributed free of charge, whereas in other project areas the technology will be sold at a subsidized rate. For example a cook stove VPA in Kenya may be based on distributing stoves free of charge but another cook stove VPA based in Cameroon may be based on a sales model.

Beneficiaries will be made aware that their subsidised / free technology and its maintenance during crediting periods is contingent upon transferring rights to carbon credit ownership directly over to co2balance UK Ltd; they will be required to sign a form confirming their acceptance of this and their ability to provide full access to our monitoring programme if asked to do so during the crediting cycle. They will acknowledge that co2balance UK Ltd will only provide maintenance in years that the installed technologies are credited and that co2balance UK Ltd can only commit to provide maintenance for the first seven years. Should crediting periods be renewed under the programme, the owners will be informed of co2balance's commitment to keep their technologies maintained and operating correctly.

Monitoring data required by the methodologies will be stored in an electronic data management system, or monitoring database, for a minimum of two years past the appropriate crediting period. From this data, the emissions reductions of each technology will be calculated using the appropriate methodology applicable to that particular project area.

A. 2. Geographic boundary of the Programme

Country (ies) – Activities under this PoA will be located in several countries: *Cameroon, Cote d'Ivoire, Gabon, Ghana, Kenya, Namibia, Nigeria and South Africa*

District – The exact Districts will be decided within each country of operation, depending on the availability of a suitable partner/project participant, host country policy and regulatory approval of the project activity.

Town/Village – Various, dependent on country

A. 3. Tentative start date of the Programme

This project aims to begin implementation in January 2013. This is an estimated date; the project will begin implementation after it has been validated.

A. 4. Programme eligibility under The Gold Standard

Project Scale: This is a Micro-Scale Programme of Activities. Emission reductions achieved by each one of the activities considered under the PoA are limited to a maximum of 10,000 tonnes of CO₂e in any year of their crediting period.

Type of Project: This project is a combination of Type I, Renewable Energy Supply and Type II, End-Use Energy Efficiency Improvement. It will comply with Annex C of the Toolkit, regarding the documentation of the transfer of carbon rights.

Host Countries: Activities under this PoA will be located in several countries: *Cameroon, Cote d'Ivoire, Gabon, Ghana, Kenya, Namibia, Nigeria and South Africa*.

This programme is not applying for retroactive crediting, and where required will meet the rules regarding additionality. Each VPA will be required to demonstrate that it meets the GS requirements listed above in order to become eligible for inclusion into the POA.

A. 5. Current status of the Programme

The programme is currently in the development stages and is actively seeking local partners to work with as well as feedback from stakeholders on the programme design. The PDDs are under preparation.

SECTION B. DESIGN OF STAKEHOLDER CONSULTATION PROCESS

B.1. Description of the consultation methods

The PoA level stakeholder consultation consisted of an electronic PoA Design Consultation, conducted to obtain feedback from governments, NGO communities and other stakeholders on the design of the programme. As guidance on conducting a Design Consultation is limited the guidance on conducting a Local Stakeholder Consultation (LSC) was adapted for the purpose. Using the categories required for the LSC as a starting point co2balance sent invitations to a wide range of different stakeholders from categories C, D, E and F giving them the opportunity to provide input on the design. Stakeholders from categories A and B were not included as it was decided that these were to project specific and not relevant at the programme design level; they will be included during the project specific LSC meetings. Those countries listed as having French as their primary language also received a French translation of the Non-technical summary as suggested by the GS Toolkit v2.2 pg 47 (*See annex 1*).

The DNA from each country included in the multi-country PoA was invited to the consultation, along with relevant Gold Standard representatives. Local and international NGO communities with relevant backgrounds, where possible (for example; environmental, energy related, rural development) were also included. Finally the relevant and specified Gold Standard supporter NGOs were included.

Invites were sent electronically via email. Stakeholders were given the opportunity to review the project and provide comments if they wished to do so. A link to a webhosted comments page was also provided to broaden the range of the consultation and allow visitors to our website to input as well.

Invited stakeholders were contacted with a follow up email at the beginning of the second week of the consultation to remind them that programme was still open for comments and that it would close at the end of the following two weeks. The design was open for feedback for a period of one month starting on the 12th November and closing on the 13th December.

In addition to the PoA level Design Consultation, live meetings will be held within each VPA project area before implementation begins in that area, which will be particularly important for targeting potential technology end-users.

B. 2. Non-technical summary of the Programme

Established in 2003, co2balance UK Ltd is a unique UK and African based carbon project developer, providing related services such as project management, carbon footprint calculation and reduction as well as offsetting. Headquartered in the UK, the company also has offices in Kenya, and representatives in Uganda, Rwanda and Japan. As a project developer, co2balance UK Ltd is now recognised as a world leader in developing both CDM and Gold Standard projects in Africa.

This Micro Scale PoA, the latest addition to co2balances project portfolio, aims to reduce Green House Gas (GHG) emissions from a range of emissions intensive sources which include: the burning of non-renewable biomass for cooking and water treatment; the

generation of electricity, from carbon intensive national grids, local diesel mini-grids & standalone generators; as well as from the combustion of kerosene in household lamps.

Activities under this Micro Scale PoA fall into two broad categories determined by their respective emissions sources:

- Non-renewable biomass - by improving **Kitchen Regimes** related to cooking and the purification of drinking water households avoid the combustion of carbon intensive non-renewable biomass (*Type II, End-Use Energy Efficiency Improvement*).
- Fossil fuels - by reducing the primary barrier to **Solar PV** technology uptake, this project aims to increase unit sales of this zero carbon technology therefore displacing emissions intensive fossil fuel derived electricity (*Type I, Renewable Energy Supply*).

Kitchen Regimes – Cook Stoves and Water

This component of the project will involve the distribution of energy efficient cook stoves and water purification technologies across multiple countries. Most families in developing countries use traditional inefficient cook stoves that consume large amounts of fuel. This means that a lot of time is spent collecting fuel that could be otherwise used for other essential activities. Traditional stoves also produce large volumes of smoke which can lead to respiratory disease, particularly in women, who are usually responsible for cooking; but also in young children and the elderly who spend a large amount of time indoors. The reduction in fuel consumption associated with the improved stoves translates into a direct reduction in GHGs, helping to combat global climate change.

Stove Technologies: Unless otherwise specified, the stove technology for wood fuel users will be based on a design developed by co2balance Ltd. The user-friendly design delivers high thermal efficiency and where possible, is built from locally sourced materials. This simple technology currently performs at 34% thermal efficiency, thereby reducing the amount of biomass required in day-to-day cooking by 71% as compared to the traditional three-stone, open fire method of cooking. Other technologies under consideration include Envirofits charcoal and portable wood burning stoves (*pictures below are for illustrative purposes only*).



In addition to using traditional, inefficient, stoves for cooking a large number of families also use them to boil water, making it safer to drink. The project will be attempting to address this issue by distributing water purification or safe water provision technologies, such as water filters and boreholes, to households and/or communities. In the case of boreholes this programme will involve the installation and/or repair of broken hand-pumped boreholes as well as their ongoing maintenance for the life of the project. The

provision of safe water technologies will result in emissions reductions related to reducing the production and combustion of biomass fuel derived from unsustainable sources.

Using the concept of suppressed demand, project developers can also obtain credits by supplying clean water to poorer members of society that are not able to use biomass energy to treat their water (because they cannot afford it, or because the energy is otherwise unavailable to them.) This means that the credits obtained are proportional to the amount of biomass that would have been combusted using traditional technology in order to provide clean water for users.

Water Technologies: Examples of water technologies are shown below. The project will explore different technologies for different regions based on the socio-economic and cultural conditions that predominate in each particular VPA. These could range from individual point of use technologies such as water filters through to community wide, safe water provision, such as boreholes; however other technologies may also be explored (*pictures below are for illustrative purposes only*).



The technologies presented in the Kitchen Regimes element of the Programme will target poorer users and households in the countries listed previously. Improved wood burning stoves are usually aimed at rural communities that predominantly cook on 3-stone fires and use wood as their primary fuel. Charcoal stoves are more often used in urban and peri-urban areas where there is less availability of wood fuel and greater dependence on charcoal for cooking needs.

Water technologies are most appropriate in areas where users boil their water to purify it and do not have access to a safe water source. Filters are most functional in areas that have relatively easy access to some type of reliable water source that is not considered safe for consumption; which is often the case in urban and peri-urban areas. Boreholes are most effective when they deliver a convenient safe water source to rural communities that had previously had to travel far to provide for their needs.

Solar PV – On Grid, Off Grid and Lamps

This Project Activity aims to increase the distribution of off grid and grid connected solar photovoltaic (PV) panels as well as technologies like solar lamps in the chosen project areas. Using projected revenues from voluntary emissions reductions sales, co2balance UK Ltd will work with local PV retailers to allow them to subsidise the costs of PV units and their installation, maintenance and marketing - thereby bringing down the price and

removing barriers to market entry for purchasers of this costly technology. This PoA will not be limited to a particular brand of panel, lamp, wattage or customer profile as sales strategies, product availability and target customer will differ across divisions in the project area. Each VPA may include a mixture of off grid and grid connected devices and/or solar lamps depending on operating circumstances.

The carbon neutral PV technologies in this project will help reduce emissions from the generation of electricity in:

- Off grid locations by displacing diesel generators, which produce significant GHG emissions.
- Grid connected locations by displacing emissions produced by fossil fuel powered national grids
- Households and Small and Medium Enterprises by displacing kerosene used for lighting

Solar Technologies: Technologies under consideration include photovoltaic panels for both on and off grid use as well as smaller technologies such as solar lamps that would replace kerosene use thereby helping the poorest families (*pictures below are for illustrative purposes only*).



Additional Benefits

Cook Stove projects, in addition to reducing GHG emissions, provide the following co-benefits:

- Reduced deforestation and degradation of surrounding forests
- Reduced soil erosion and nutrient loss
- Reduced risk of flooding
- Reduced poverty, by reducing annual expenditure on cooking fuels
- Reduced adverse health effects associated with indoor air pollution
- Reduced cooking and wood collection time; allowing more time for other tasks
- Reduced burns and injuries from cooking

The provision of safe water technologies will provide the following co-benefits:

- Reduced illness and disease as a result of drinking dirty water
- Reduced deforestation and degradation of surrounding forests
- Reduced poverty, through reduced annual expenditure on fuel
- Reduced fuel collection time, therefore reducing opportunity costs for households

Solar projects replacing the use of kerosene lamps aim to have the following impacts:

- Reduced expenditure by poor households on expensive kerosene fuel.
- Positive health benefits due to reduced exposure to gases released by kerosene lamps.

- Reduced time spent sourcing kerosene.
- Increased ability to continue household chores after dark, particularly children's school work
- Positive environmental benefits from a reduction in the carbon dioxide released in the burning of kerosene.

Solar projects replacing national grid or diesel mini-grids will:

- Result in adoption of clean modern technology, replacing emissions intensive fossil fuels
- Result in a net reduction of 'black carbon', produced as a by-product of diesel combustion.
- Result in reduced domestic expenditure on fossil fuels to supply energy. Consumers will also be insulated from fossil fuel price rises - thereby benefiting from increased energy security.
- This project will result in an increased income for small scale solar PV suppliers
- Locally it will result in cleaner air, reduced spillage of diesel and less noise pollution.
- This project will result in increased employment opportunities as a result of investment
- This project will familiarize a large number of people with the benefits of solar technology, which will increase overall interest and investment in the renewable energy industry overall.

B.3. Invitation tracking table

Category code	Organisation (if relevant)	Name of invitee	Method of invitation	Date of invitation	Confirmation received? Y/N	Date of Reminder
C	Comité National chargé de la mise en oeuvre du Mécanisme pour le Développement Propre au Cameroun (ou AND du Cameroun)	Mme. Ouli Ndong,ou	E-mail	13/11/2012		27/11/2012
C	National Agency for Environment (ANDE)	Ms. Rachel Boti-Douayoua	E-mail	13/11/2012	Y	27/11/2012
C	Ministère de l'environnement, du développement durable de la protection de la nature, de la prévention et de la gestion des calamités naturelles	Ms. Marthe Minko Mapangou	E-mail	13/11/2012		27/11/2012
C	Environmental Protection Agency, Ministry of Environment, Science & Technology	Mr. Jonathan A. Allotey	E-mail	13/11/2012		27/11/2012
C	National Environment Management Authority	Ms. Anne Nyatichi Omambia, PhD	E-mail	13/11/2012		27/11/2012
C	Ministry of Environment and Tourism	Mrs Christine Mukumba	E-mail	13/11/2012		27/11/2012
C	Federal Ministry of Environment	Dr. Samuel A. Adejuwon	E-mail	13/11/2012		27/11/2012
C	Department of Energy	Ms. Nelisiwe Magubane	E-mail	13/11/2012	Y	27/11/2012
D	Help Self Help Centre		E-mail	13/11/2012	Y	27/11/2012
D	Kenya Environment Development Initiative (KEDI)		E-mail	13/11/2012	Y	27/11/2012
D	Smart Citizens	Caroline Ruto	E-mail	13/11/2012	Y	27/11/2012
D	Centre for Community Empowerment (CECOE)		E-mail	13/11/2012	Y	27/11/2012
D	CLOUT		E-mail	13/11/2012		27/11/2012
D	Cameroon Environment Watch	Dr Roger NGOUFO	E-mail	13/11/2012		27/11/2012
D	Better World Cameroon	Joshua Konkankoh	E-mail	13/11/2012	Y	27/11/2012
D	ACTION AID GHANA (AIGH)	Ctaaka Awori	E-mail	13/11/2012		27/11/2012
D	Afram Plains Development Organisation (APDO)	A.Y.O. Modoc	E-mail	13/11/2012		27/11/2012
D	African World Foundation For Human development	Ekow Beecham	E-mail	13/11/2012		27/11/2012
D	Agency For Sustainable development (ASD)	Fred Kwame Agbogbo	E-mail	13/11/2012		27/11/2012
D	Namibia Nature foundation	N/A	E-mail	13/11/2012		27/11/2012
D	Creative Entrepreneurs Solutions (CES)	Marie Johansson	E-mail	13/11/2012		27/11/2012
D	News Namibia		E-mail	13/11/2012		27/11/2012
D	Integrated Rural Development and Nature Conservation		E-mail	13/11/2012		27/11/2012
D	Alliances For Africa		E-mail	13/11/2012		27/11/2012
D	Gender Training and Development Network	Mr. Jide Ojo	E-mail	13/11/2012		27/11/2012
D	Girls Power Initiative		E-mail	13/11/2012		27/11/2012
D	Nigerian Youth Climate Coalition (NYCC)	Esther Agbarakwe	E-mail	13/11/2012		27/11/2012
D	Climate Action Partnership	Sarshen Marais	E-mail	13/11/2012		27/11/2012
D	The Mwula Trust	Janine Julies	E-mail	13/11/2012		27/11/2012
D	Sustainable Energy Africa		E-mail	13/11/2012		27/11/2012

D	Water Institute of South Africa		E-mail	13/11/2012		27/11/2012
D	Association Pour le Developpment du Sanwi		E-mail	13/11/2012		27/11/2012
D	Christian International Assistance to the poor		E-mail	13/11/2012		27/11/2012
D	Association of African institutions for financing development		E-mail	13/11/2012		27/11/2012
D	ONG qui oeuvre pour la promotion de l'entrepreneariat auprès des jeunes		E-mail	14/11/2012		27/11/2012
D	Coup de balai à Abidjan		E-mail	14/11/2012		27/11/2012
D	Association de coopération et d'entraide entre les hommes"Action au Développement des Familles démunies		E-mail	14/11/2012		27/11/2012
D	Association gabonaise d'écotourisme		E-mail	14/11/2012		27/11/2012
N	Les amis du Pangolin		E-mail	14/11/2012		27/11/2012
D	Collectif national ONG du Gabon		E-mail	13/11/2012		27/11/2012
D	Cousins De Monde		E-mail	13/11/2012		27/11/2012
D	Brainforest		E-mail	13/11/2012		27/11/2012
D	Réseau des organisations libres de la Société civile pour la bonne gouvernance au Gabon		E-mail	13/11/2012		27/11/2012
E	Gold Standard	Heba Rabie	E-mail	13/11/2012	Y	27/11/2012
F	Greenpeace International		E-mail	13/11/2012		27/11/2012
F	HELIO International	Helene O'Connor-Lajambe	E-mail	13/11/2012		27/11/2012
F	Mercy Corps	Jim	E-mail	13/11/2012		27/11/2012
F	REEEP	Jari Harvey	E-mail	13/11/2012		27/11/2012
F	World Vision Australia	Dr. Dean C Thomson	E-mail	13/11/2012		27/11/2012
F	WWF International	Bella Roscher	E-mail	13/11/2012		27/11/2012
F	Climate Action Network South Africa	Dorah Lebelo	E-mail	13/11/2012		27/11/2012
F	REEEP		E-mail	13/11/2012		27/11/2012
F	Greenpeace International		E-mail	13/11/2012		27/11/2012
F	WWF Eastern Africa Regional Programme Office (EARPO)	Kimunya Mugo	E-mail	13/11/2012		27/11/2012
F	CARE International		E-mail	13/11/2012		27/11/2012
F	Greenpeace Africa		E-mail	13/11/2012		27/11/2012
F	NOVA Institute	Christiaan Pauw	E-mail	13/11/2012		27/11/2012
F	ONKE Training	Mmathabo Mrubata	E-mail	13/11/2012		27/11/2012
F	Renewable Energy & Energy Efficiency Institute	Kudakwashe Ndhlukula	E-mail	13/11/2012		27/11/2012
F	SouthSouthNorth	Stefan Raubenheimer	E-mail	13/11/2012		27/11/2012
F	Zero: Regional Environment Organisation	Johannes Chigwada	E-mail	13/11/2012		27/11/2012

B.4. Level of consultation

Live Stakeholder Consultations will take place at Activity Level. At PoA Level the stakeholders above were contacted by emails, sent out between 12/11/12 and 13/12/12. The design was open for comment for one month allowing stakeholders to feedback in 2 forms (email and web based). Reminders were sent out at the half way point, 27th November, of the feedback period to encourage the maximum level of participation.

The text of the invite is shown below:

Dear Sir/Madam

Pour la version française du résumé non-technique, référez-vous à l'Annexe 1 ou au document attaché.

co2balance intends to develop a Micro-Scale Programme of Activities (GS PoA) in a number of countries in sub-Saharan Africa. This GS PoA provides a framework for the inclusion of multiple individual projects called VPAs; focusing on technologies such as improved cook stoves, solar PV as well as water filters and boreholes.

We are beginning to plan the project and are interested in receiving input and feedback during the early stages of our programme design. As part of Gold Standard requirements, please find attached a summary of our programme design upon which we invite your feedback and input on any of the aspects within. Note that we will also be conducting local, face to face stakeholder consultations at the project activity level, as we believe this will allow us to deliver the most locally suitable project design.

If during your appraisal of our design you have any questions, suggestions or requests for clarification, please do not hesitate to get in touch with me. As we would like to start work on this programme in January 2013, we would be grateful if you could register any input **before 13th December** to allow us to incorporate any suggestions for improvement. The Design Consultation documents have also been posted on our website (www.carbonzerofederation.com/account/ss_projects/view/110/public/) where you can leave feedback or alternatively reply directly to me before the **13th December**.

Please confirm receipt of this e-mail; many thanks for your interest and time.

Kind Regards,

Lloyd

The text of the reminder email is shown below:

Dear.....

I would like to remind you that we are now halfway through the one month Design Consultation feedback period for our Gold Standard PoA and that last comments will be accepted on the 13th December. If you would like to input please respond by the 13th.

Kind Regards

Lloyd Archer

Stakeholders also had the option to submit feedback on our website at the following address www.carbonzerofederation.com/account/ss_projects/view/110/public/. The page looks as follows:



View Project Details

[Back to Projects](#)

Project Details

Project Name: Micro Energy Programme
 Project Type: Improved Cook Stoves (Wood)
 NGO: N/A
 Country: Multi Country
 Regions:

Project Image



Related Files

Stakeholder Feedback

As part of the Gold Standard process we are inviting all project stakeholders to provide feedback on the documentation associated with this project. If you would like to, please download the documents and provide feedback through the feedback link provided below.

 **2012 11 12 Micro Energy Programme Design Consultation**
 441_2012_11_12_Micro_Energy_Programme_of_Activities_Design_Consultation.pdf (PDF File 798.28 KB)
 November 12th, 2012 15:11 PM

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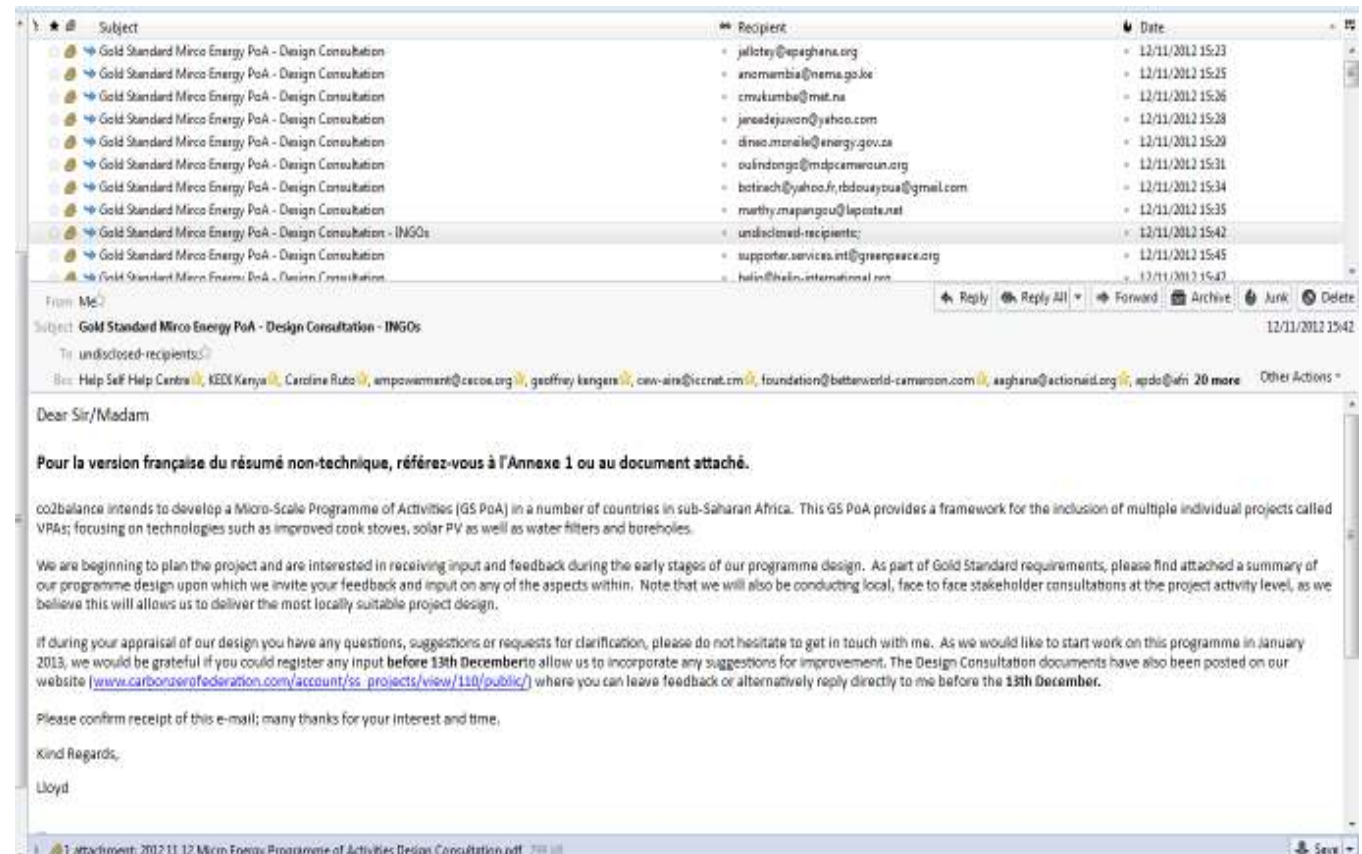
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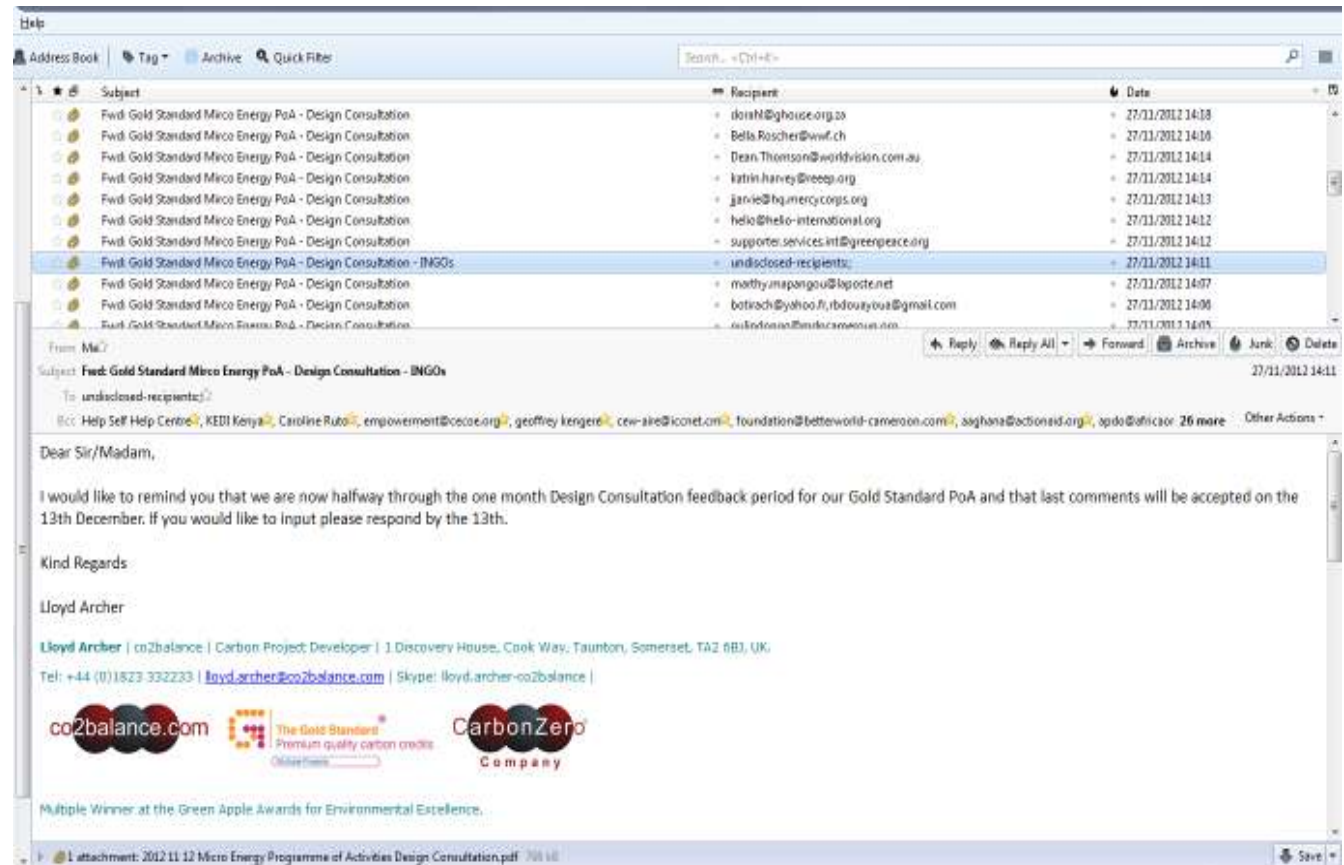
CarbonZero Federation Members

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Below is a screen shot illustrating the email sent to stakeholders at the start of the one month Design Consultation period as well as a representative example of recipients.



Below is a screen shot of the 2 week reminder email sent to stakeholders on the 27th November requesting that they provide any feedback by the 13th December.



SECTION C. OUTCOME OF THE CONSULTATION PROCESS

C.1. Assessment of comments

S.No	Comment	Organization	Response to comment
1	I have gone through the document, it offers a very workable solution. I therefore have no comments	Smart Citizens	Thank you kindly for reviewing our documents. I am pleased that you think our proposal offers a workable solution.
2	Please find below our feedback on the design consultation document you provided us. Please note that our official feedback on the DC process will be provided after we review the Design Consultation Report. <u>Programme Design/Non Technical Summary (NTS)</u> We recommend the CME(s) of all the PoAs to include a basic level of information regarding the commercial terms and conditions under which, an interested activity can be allowed to be a part of the PoA. For instance, you can mention in the NTS, whether there is any fee based model to join this PoA or if any interested party can freely be a part of the programme. <u>Design Consultation Process</u> GS would like to review the list of stakeholders for which the DC was sent to. We expect to see a minimum of the following stakeholders who should be/have been invited for comments/feedback on the PoA design: - Host country DNA(s) - Research organizations /institutes working on the particular technology(ies) - National agencies who have the mandate to set the quality criteria	Gold Standard	Many thanks for the inputs, I notice that the majority of the comments relate to Gold Standard expectations of the process itself and not necessarily the project design. As the process is currently ongoing this is a slightly awkward moment to be addressing these. With regards to invitees I have used the available guidance to the best of my abilities. Due to there not being a definitive list of stakeholders that must be contacted at the Design Consultation level I have used the activity level LSC guidance as my basis but amended it where necessary to be relevant to the goals of the Design Consultation (e.g. not including Cat A representatives at this stage). The list of stakeholders invited to feedback is attached to this document for your review ahead of the official feedback on the DC process. These include stakeholders from categories C, D, E and F from the LSC guidance but does not include: -Research organizations / institutes working on the particular technology(ies) -National agencies who have the mandate to set the quality criteria for a technology type in a countr - Implementation agencies/CME(s) of the earlier PoAs in a host country - Technology suppliers - Renewable energy /energy efficiency development nodal agencies With regards to methods of communication and feedback I have e-mailed all stakeholders as well as posting the DC on our website with a link to provide feedback (the website address was included in my initial email). For those countries included in our PoA that are majority or partial French speakers I have included a French version of the NTS. As you have seen I have also sent out a reminder email at the halfway point of the feedback period.

	for a technology type in a country - Implementation agencies /CME(s) of the earlier PoAs in a host country - Technology suppliers - Renewable energy/energy efficiency development nodal agencies - GS NGO Supporters (present in that host country) + International GS NGO Supporters - Other relevant local NGOs of the host country We also recommend CMEs to use other means of contacting the stakeholders to seek feedback rather than only through e-mails, for e.g., telephone calls, formal letters, fax, or by publishing information on website, etc. It is highly recommended, as CMEs should be proactive in obtaining as much feedback as possible during DC, considering the fact that DC is taking place electronically and there is no live meeting for this process. For example, CMEs may consider sending out reminders to the stakeholders in case they do not receive any feedback.		Although information on inclusion into the PoA is not included in the NTS it does say in the Programme Design section: "co2balance will act as the Coordinating Managing Entity for the PoA but may involve implementation partners or project participants in some project areas; however, this will be decided on a case-by-case basis as projects are implemented. If your organization is interested in working with us please use the contact details at the end of this document to voice your interest." As the DC is at a very early stage in the project process we are not looking for partners and at any rate this Programme is too wide to address such issues in the required detail at the DC level. Thanks again and kind regards
3	EMAIL #1 We are particularly interested in stove cooking technologies, which is a critical issue in our project landscape. However, we see another attractive trend: the use of biogas for cooking and lighting. This is because farmers are going for zero grazing concept of dairy cattle. This makes it possible to promote the use of biogas digesters. Second, due to the cost of petroleum based fuel, farmers are looking for alternative technology to replace diesel water pumps along rivers. We suggest	Help Self Help Centre	EMAIL #1 Sorry for the delayed reply, it has taken me a little longer than expected to respond. Firstly, thank you for taking the time to review our documents. I'd like to point out that at this stage we are just starting to design the project and that we are a long way from installing any technologies in project areas. The Gold Standard require us to invite relevant stakeholders in the countries we intend to work to review our proposed project and provide feedback, this is why we have contacted you amongst other NGOs in Kenya. I see from your e-mail that you are interested in biogas. It is not something that we are currently involved with but there is potential to earn carbon credits from this type of technology and it is something that we have discussed in the past. It sounds as if you might have explored the concept already so I wonder if you can

promotion on the use of hydram pumps for irrigation purposes. There is currently a potential of 12000 pumps which will reduce significantly the cost of farming and CO₂ emission in the agricultural system. One point of clarification is, who owns the carbon credits and whether the user of the technology would benefit from this. EMAIL #2 Thanks for your email. I was on leave and that explains the delay. 1. Biogas: we are actually installing the technology on trial basis. This started six months ago. The outcome is good. For those who can afford the fee are largely happy about the outcome. The biogas is being used for heating and lighting. There are about 73 biogas units, different shapes and sizes in the project area. 11 of these are under HSHC trial. The biggest obstacle is the initial investment of average KShs75000 (approx. £500). Only a fifth of households approached indicated they can afford the technology. But the number is increasing as farmers go to commercial crops and undertake “farming as a business”. We also know ICCO Netherlands has a program in India which has installed 18000 units of biogas digesters and which are earning carbon credit. Further details can be sought through ICCO. 2. Hydram Concept- A Low Carbon Technology: The farming community in Kenya		provide me with some additional information if you have it? For example, have you already trialed any technologies and what was the outcome? Do you know the cost of one biogas unit? I am also interested in your suggestion regarding hydram pumps for irrigation but you will have to forgive me as this is something I am not familiar with. It may be possible to claim carbon credits from a technology such as this but I do not know if there is a methodology available that we could follow or not. Any more information on this area that you could provide would also be appreciated, including details of the pumps. To answer your question regarding ownership of carbon credits - the technology user signs over ownership of the credits to the project developer(s) in return for the free or heavily subsidised technology. The end user benefits from a free or low cost technology and the project developer(s) benefits from the sale of the carbon credits. EMAIL #2 Thank you once again for your input and sorry for the delayed reply. I have been extremely busy and forgot to respond to your email! I will jump straight in and respond to your comments: 1. At present as you have seen we have not included biogas into our project, this was for two main reasons: Firstly it is not a technology that we have had any previous experience with and secondly we were aware that its cost was prohibitive to conducting on a large scale. I think at this time we would not look to add the technology into the project because of the unit cost; £500 is quite a lot and based on my research it is not possible to generate enough carbon credits from one unit to make the project viable. If the unit cost was greatly reduced and/or a micro-finance model was incorporated it might be possible. If you would like to continue to discuss this outside of the Design Consultation feedback period I would be happy to do so to determine what if any potential there might be. 2. I have searched through the methodologies looking for one that might be suitable for the Hydram concept and so far have had no luck. It is my feeling at this time that one does not exist but I will keep looking because this is an interesting concept which could generate credits and would be beneficial to local farmers.
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	is blessed with numerous rivers and streams fed from Mountains However; water is not available to the communities for drinking, farming and irrigation owing to higher elevation. Hydram is a resource efficient and low carbon technology to address the issue. This technology can play a role in changing energy consumption pattern currently existing in Kenya. A hydraulic ram pump (hydram) is an automatic pumping device which uses a large flow of water falling through a small head, to lift a small flow of water through a higher head. In simple words, this renewable energy technology uses power available from flowing water to lift certain volume of water to a greater height where it is required. The moving parts of the hydram are only two valves; therefore it is mechanically very simple. This gives high reliability, low operating costs, minimal maintenance and a long operation life to the system. In short, it is a 'resource efficient' and 'low carbon' technology. The hydram concept was first developed in France in 1796. By the end of the twentieth century, interest in hydrams increased, owing to the need for sustainable technologies worldwide. Similarly, in Kenya the technology was introduced in the 40s and 50s by the British but the technology never took off well among the small a scale farmers, until now. Currently the interest has been rekindled.		
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	HSHC has recently started to promote the technology in Mount Kenya. So far, 7 hydram systems have been installed on a pilot basis. The interest among farmers is increasing. Current orders are 11. The cost of one unit is £280. We are not sure about hydram pumps and carbon credit, but it's possible from the perspective of replacing petrol or diesel powered currently used in water pumps. Am sure both carbon zero and HSHC can explore the possibilities.		
4	EMAIL #1 Thanks for the communication and for reaching out to us. We are very much willing to participate in the design of the project at all levels. We shall certainly provide feedback as per the guidelines. Please do not hesitate to get back to us in case of any clarification. EMAIL #2 Hope you are well. We are interested in improved cook stoves and Solar PV. Our Counties of interest are Kiambu, Murang'a, Kirinyaga and Laikipia. Kindly let us know in case you need additional information.	KEDI	Thanks for replying, sorry mine was delayed! We are currently only inviting stakeholders to provide feedback on the project design and concept as required by the Gold Standard, so at this stage we are not looking for partners. If you have time to review the document I sent and provide any feedback that would be appreciated if not we may be in touch in the future if we implement projects in your areas.
5	EMAIL #1 Better World Cameroon www.betterworld-cameroon.com is designing a Bio-char project in its Climate Change Agenda of Ndanifor Permaculture Eco village Project. We seem to have some common ground here. so we are interested in co2balance's intentions to develop a Micro-Scale Programme of Activities (GS PoA) in a number of countries in sub-Saharan Africa. So we will like to be included in the framework of your VPAS projects especially those focusing on	Better World Cameroon	EMAIL #1 Thanks you for your reply and showing an interest in our project. At this stage we are simply inviting stakeholders to provide feedback on our proposal and we are consequently a long way from implementing any components of the project. However, it does seem that there are some similarities between the work our two organisations are doing so I would like to keep in contact so that when we are ready to work in Cameroon we can move forward. From our perspective we would be interested in possibly implementing a borehole project in Cameroon at some point. EMAIL #2 Many thanks for the feedback, before I go through each

	technologies in improved cook stoves, solar PV as well as water filters and boreholes in the arid regions of our country where desertification is taking its toll on rural populations. EMAIL #2 There's definitely need for repair of Bore holes in our region of operation were floods have damaged the few boreholes that exist in the Far North Region of Cameroon. Could be a useful way forward? EMAIL #3 After going through the non technical summary of the project, I have gain more clarifications about the whole project and now able to give my humble suggestions without fear of hyperbolic embellishment. 1- For the stove made of local material, i find it good. but taking in to consideration that most poor communities, that are suppose to be beneficiaries of the project consume cereals, that is corn floor. The three stone fire has a good stability in the soil to sustain big pot when preparing corn floor using stick to steer the content with much energy. is the stove you are proposing have the same stamina as the three stone fireside? if not, i see no villager abandoning the three stone for our stove that solve on problem, that of cooking faster and conserving heat, by creating another problem which might lead the whole pot on the floor because of fragile stability. 2- For the water purification		of your points below I would like to make a general point regarding the proposed project and it's implementation. The Design Consultation document that we have sent out for review is a requirement by the governing body, the Gold Standard, and is the first step in a very long process. This process, amongst many other things, requires us to state which areas/countries we might possibly like to conduct projects in at the very beginning and then these cannot be changed (unless a fee is paid). So in response to this we have set out quite a broad number of countries that we think have potential for one of the projects listed. However, the main focus of the project at this stage will be East Africa and Kenya in particular as we have operations in place there already and it is therefore easy for us to manage more projects there. This does not mean that we are not open to carrying out a project in Cameroon now, it just means that we would have to consider the circumstances carefully before proceeding. In response to your points below: 1. This is a good point and something we experienced in Ghana a while back. We currently have one stove that we have designed ourselves and manufacture in Kenya and it may not be suitable based on what you have told me but we would carry out feasibility work before any project to test this. We are also designing the project in such a way that allows us to use different technologies in different areas as we are aware that one stove won't be suitable everywhere. So, the potential is to manufacture or purchase another more suitable design if we were to look at a cookstove project in Cameroon. 2. Again this is fairly open and we would make the decision on what is available, how much it cost as well as the local conditions. The current thinking is a bio-sand filter. 3. Ok, this is interesting. In what way are the government active in the region? Are they financing the boreholes? Are there any laws making boreholes mandatory?
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	techniques, what are your proposing to use. is it chemicals or simple techniques based on indigenous knowledge. 3- Boreholes can be the best in the far north of cameroon. as its a project that exist already with the support of the government and technical assistance of BETTERWORLD as water, sanitation and hygiene(WASH) consultant.		
6	Good day, This is to acknowledge receipt and thank you. Please forward your e-mail to Ms Nnana Direro and Ms Kefilwe Naledi for comments. Their e-mail addresses are as follows: <u>Kefilwe.naledi@energy.gov.za</u> and <u>Nnana.direro@energy.gov.za</u> I hope you will find the above in order.	Department of Energy, South Africa	Dear Kefilwe and Nnana, Please see the emails copied below and the attached document regarding our proposed Gold Standard micro Energy PoA. We are currently halfway through the stakeholder consultation phase so if you would like to input on the project design please do so by the 13th December. Thank you in advance for your time
7	Hi Lloyd Greeting from our end at Center for community empowerment. I acknowledge of the document and will review it and will give my feedback upon consultations with our board on the same	Centre for Community Empowerment	N/A (No response received)
8	Thanks for getting in touch with Greenpeace Africa. We'll pass your email on to the relevant person in the organisation and get back to you as soon as possible.	Green Peace Africa	N/A
9	Dear Mr. Archer,	CDM DNA Coordinator	N/A

	I confirm receipt of the message below. Regarding our response, we will get back to you as soon as possible. Regards	Côte d'Ivoire	
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C.2. Summary of changes to Programme design based on the stakeholder feedback provided

Stakeholder feedback was overwhelmingly positive and consisted largely of suggestions for alternative technologies and practices to be included in the programme. While a number of these were interesting and potentially suitable for carbon projects they would require substantial changes to the project design and documents, for example the inclusion of additional methodologies, which would make the programme overly complicated and would not necessarily contribute to the overall project.

Based on the feedback received it was not deemed necessary to alter the design of the project to account for any potentially negative aspects.

ANNEX 1

Résumé non technique du programme

Crée en 2003, co2balance UK Ltd est unique dans son rôle de développeur de projet carbone au Royaume Uni et Afrique: les services offerts incluent la gestion de projets, le calcul d'empreinte de carbone, ainsi que la réduction et la compensation des émissions. Située au Royaume-Uni, l'entreprise a aussi des bureaux dans l'Ouganda, au Rwanda et au Japon. En temps que développeur de projet, co2balance UK Ltd est maintenant reconnu en temps que leader mondial dans le développement de projets CDM et Gold Standard en Afrique.

Ce programme d'activités (PdA) à micro-échelle, la dernière addition au portfolio de projets de co2balance, cherche à réduire les émissions de gaz à effets de serre (GES) d'une variété de différentes sources d'émissions intensives, comme:

- La combustion de biomasse non renouvelable pour la cuisine et pour le traitement d'eau ;
- La création d'énergie – venant soit de réseaux nationaux de carbone intensif, de mini réseaux diesels locaux et ou de générateurs privés ;
- La combustion de kérosène pour les lampes domestiques.

Les activités de ce programme d'activités tombent grossièrement dans deux catégories qui sont définies par leur source d'émissions respective:

- La biomasse non renouvelable – en améliorant les régimes liés à la cuisson et à la purification d'eau potable dans les résidences privées, pour éviter la combustion biomasse non renouvelable de carbone intensive. (*Type II, efficacité énergétique dans les utilisations finales*) ;
- Les combustibles fossiles – en réduisant la barrière principale à la technologie solaire photovoltaïque (PV), ce projet vise à faire grandir la vente à l'unité de cette technologie zéro carbone, dans le but de réduire les émissions intensives de combustibles fossiles dérivées de la production d'électricité. (*Type I, Réserves d'énergie renouvelable*).

Régimes de cuisson – les fours et l'eau

Cette partie du projet se centre autour de la distribution de fours à énergie efficace et des technologies de purification d'eau dans multiples pays. La plupart des familles dans les pays en voie de développement utilise des fours traditionnels, qui sont inefficaces, et consomment un taux élevé de combustibles. Ceci implique aussi la collecte de combustibles (tels que le bois ou charbon), ce qui demande un temps considérable, qui pourrait autrement être utilisé pour d'autres activités essentielles. Les fours traditionnels produisent un volume considérable de fumée, ce qui peut engendrer des maladies respiratoires, surtout chez les femmes, qui restent responsable de la cuisine; une autre démographie à risque sont les enfants, qui passent aussi une large proportion du temps l'intérieur. La réduction de la consommation de combustibles qui est associée avec les fours améliorés est immédiatement visible au niveau de la baisse des émissions de GES, aidant à combattre le changement climatique global.

Technologies de fours: La technologie utilisée pour les fours à bois a été développée

par co2balance Ltd (sauf si indiqué autrement). Ce design, facile d'utilisation, offre une efficacité thermique élevée, et quand possible, peut être construite à partir de matériaux locaux. A ce jour, cette technologie délivre une efficacité thermique de 34%, ainsi réduisant la biomasse nécessaire pour le fonctionnement domestique de 71% par rapport au traditionnel feu de bois ouvert. D'autres technologies qui peuvent être considérées sont le charbon Envirofits et les fours à bois portatifs. (Les images ci-dessous sont qu'à titre indicatif).



L'usage domestique des fours traditionnels inefficaces ne se limite pas qu'à la cuisson, mais ils sont aussi utilisés pour ébouillir l'eau, dans le but de la rendre potable. Ce projet va tenter d'adresser ce problème en introduisant de nouvelles technologies de purification d'eau, tels que des filtres et puits, aux domiciles proves et/ou communautaires. Dans le cas des puits ce programme inclura l'installation et/ou la réparation de pompe d'eau manuelle, ainsi que leur entretien pendant toute la durée du programme. La provision de technologie d'eau potable aidera à réduire les émissions dues à la production et combustion de biomasse dérivée de sources non-durables.

En utilisant le concept de suppression de demande, les développeurs du projet peuvent devenir créditeurs en approvisionnant les membres plus pauvres de la communauté qui ne peuvent pas utiliser l'énergie de biomasse (soit parce qu'ils n'ont pas les moyens financiers, ou parce qu'ils n'ont pas accès à l'énergie). Ceci veut dire que les crédits obtenus sont proportionnels à la quantité de biomasse qui aurait été utilisée par la méthode traditionnelle pour obtenir l'eau salubre pour les utilisateurs.

Purification d'eau Des exemples de technologies de purification d'eau se trouvent ci-dessous. Ce projet explorera différents moyens dans chaque région, selon le profil socio-économique et culturel qui prédomine dans chaque région du Projet d'Activité Volontaire (PAV). Ceux-ci s'étendront de technologies basées sur l'utilisation privée, telles que des filtres individuels jusqu'aux points d'eau salubre communautaires, tels que le creusage de nouveaux puits ; d'autres technologies pourront être explorées (les images ci-dessous sont à titre indicatif).



Les technologies présentées dans la partie précédente seront réservées aux utilisateurs et domiciles plus pauvres dans les pays cités au début. Les fours à bois améliorés sont d'habitude ciblés aux communautés rurales qui cuisinent principalement à feu ouvert et utilisent le bois comme combustible principal. Les fours à charbon sont utilisés dans les zones urbaines et péri-urbaines où l'accès au bois est limité et le charbon reste nécessaire pour la cuisson.

Les technologies pour la purification d'eau sont appropriées dans les régions où les utilisateurs ébouent leur eau pour la purifier et n'ont pas accès à une source d'eau saine. Les filtres sont plus pratiques dans les régions qui ont un accès raisonnable à une source d'eau qui est impropre à la consommation, ce qui est souvent le cas dans les zones urbaines et péri-urbaines. Les puits sont plus efficaces lorsqu'ils offrent une source saine et accessible à une communauté qui autrement dépendait d'une source lointaine.

Les panneaux solaires photovoltaïques (PV) – en réseau, autonome et lampes

Ce projet a comme but d'augmenter la distribution de panneaux solaires PV autonomes ou connectés à un réseau, ainsi que celle des lampes solaires dans certaines régions du projet. En utilisant les revenus projetés des ventes de réduction d'émissions volontaires, co2balance UK Ltd travaillera avec les revendeurs locaux de panneaux PV pour leur permettre de subventionner les coûts des panneaux PV, ainsi que leur installation, maintien et marketing; ceci permettra de réduire le coût et enlèvera les barrières financières qui existent pour les acheteurs de cette technologie onéreuse. Ce PAV ne sera pas limité à une marque particulière de panneau, lampe, puissance en watts ou profil d'utilisateur puisque les stratégies de vente, la disponibilité des produits et les clients cibles différeront à travers les divisions du projet. Chaque PAV inclura un mélange d'appareils autonomes et connectés à un réseau, et de lampes solaires selon les moyens disponibles.

La nature carbone neutre des technologies PV aideront à réduire les émissions de GES grâce à la génération d'électricité dans:

- les panneaux autonomes qui remplaceront les générateurs diesel qui produisent des émissions GES significatifs;
- les réseaux connectés qui remplaceront les émissions produites par les combustibles fossiles générées par les réseaux nationaux;
- les domiciles et petites et moyennes entreprises qui remplacent le kérosène utilisé pour

l'éclairage.

Technologies solaires: Les technologies à considérer sont les panneaux PV, ainsi que les technologies moins expansives telles que les lampes solaires, qui remplaceront le kérosène, ce qui aidera surtout les familles à moyens restreints. (*Les photos ci-dessous sont à titre indicatif*).



Bénéfices additionnels:

Les projets de fours efficaces, en plus de réduire les émissions GES, offrent les bénéfices suivants:

- la réduction de la déforestation et dégradation des forêts des alentours;
- la réduction d'érosion de la terre et l'appauvrissement du sol;
- la réduction de risque d'inondation;
- la réduction de la pauvreté, en réduisant les dépenses domestiques pour combustibles;
- la réduction des effets notoires a la santé associés à la pollution de l'air interieur;
- la réduction de temps de cuisson et de temps dédiée à la collection de bois, qui permet l'allocation de temps à d'autres activités;
- la réduction de brûlures et autres blessures associées à la cuisson à feu ouvert.

L'approvisionnement de technologies de purification d'eau offrira les bénéfices additionnels suivants:

- réduction de maladies et infections dues à la consommation d'eau insalubre;
- réduction de déforestation et gradation de forêts des alentours;
- réduction de la pauvreté, en réduisant les dépenses domestiques pour combustibles;
- réduction du temps nécessaire a l'acquisition des combustibles, ainsi réduisant les pertes d'opportunités pour les domiciles.

Les projets solaires remplaçant l'usage des lampes à kérosène prévoient les impacts suivants:

- la réduction des dépenses dédiées au kérosène pour les domiciles à moyens réduits;
- des bénéfices de santé grâce à une réduction d'exposition aux gazes émis par les lampes à kérosène;
- la réduction du temps nécessaire à l'acquisition du kérosène;
- la possibilité de poursuivre les activités domestiques après la tombée de la nuit, particulièrement les cours et devoirs scolaires des enfants;
- des bénéfices environnementaux provenant d'une réduction d'émission de dioxyde de

carbone venant de la combustion du kérosène.

Les projets solaires remplaçant les réseaux nationaux ou réseaux locaux à diesel se solderont:

- dans l'adoption de technologie propre et moderne, remplaçant les émissions intensives dûes à la combustion de combustibles fossiles.
- dans la réduction net du noir de carbone, produit dérivé de la combustion de diesel;
- dans la réduction des dépenses domestiques associées aux combustibles fossiles destinés à la production d'énergie. Les consommateurs seront aussi protégés contre les augmentations des prix des combustibles, et auront croissance dans leur sécurité énergétique ;
- dans une augmentation de revenu pour les revendeurs à petite échelle de produits solaires PV ;
- localement, dans une meilleure qualité d'air, moins de pollution sonore, et une diminution de déversement de pétrole;
- dans une augmentation d'opportunité d'emploi grâce aux nouveaux investissements;
- dans une acquisition de savoir par le grand public sur les bénéfices des technologies solaires, ce qui permettra une croissance dans l'investissement et dans l'intérêt porté à l'industrie du renouvelable.