

GOLD STANDARD PASSPORT

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SECTION A. Project Title

Aberdares Improved Cook Stoves

SECTION B. Project description

[See Toolkit 1.6]

Estimated start date of construction: July 2010 (Pilot stoves), Feb 2011 (full construction of project)

The Aberdares Range, central province Kenya, lies on the equator at a longitude of 36° 45'. It stretches 130km North-South from Nyahururu to Limuru and its highest peak has an altitude of 4,000m above sea level.

The main ecosystems within the mountain range are rainforests, bamboo forests and moorland. The western edge of the range is sparsely inhabited by wildlife compared to the eastern slope. There are multitudes of elephant, buffalo, giant forest hog as well as the endangered Black Rhino. The Aberdares forest is one of the five main water catchments in Kenya. It is also vital for tourism, and achieving Kenya's vision 2030. However, there are several problems that affect the area. Large scale, uncontrolled, irregular, or illegal human activities like charcoal production, logging, settlements, and crop cultivation, among others, caused devastation within the range. The situation is so critical that a fence is being constructed to reduce such degradation.

The Aberdares ICS project will be attempting to address some of these issues by distributing improved cook stoves in the area surrounding the range. In the absence of this project, locals would primarily cook using traditional inefficient wood stoves. The stoves will be constructed, distributed and installed through Carbon Zero Kenya Ltd. These stoves will utilise the efficient rocket technology which initial testing has shown to be about 50% more efficient than traditional 3-stone fires. These stoves will use less firewood and emit less smoke, which will reduce daily firewood costs and illness caused by smoke inhalation.

The distribution of efficient stoves will result in greenhouse gas emissions reductions associated with the combustion of firewood derived from non-renewable sources. In addition to reducing greenhouse gas emissions, this project will contribute towards important sustainable development benefits including:

- Reduced deforestation, environmental degradation and associated benefits to water, soil and biodiversity.
- Reduced adverse health effects associated with indoor air particulate matter inhalation from the smoke due to the purpose built stove design.
- Enhanced energy security.
- Reduced poverty as the efficient wood stoves reduces annual expenditure on cooking fuels.
- Increased environmental awareness and community integration.

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Image: Type of Carbon Zero stove that the project will distribute

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SECTION C. Proof of project eligibility

C.1. Scale of the Project

Please tick where applicable:

Project Type	Large	Small
	☐	☐
	☐	☐
	☐	☐
	☐	☒
	☐	☐

	☐
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C.2. Host Country

Kenya

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C.3. Project Type

Please tick where applicable:

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	☐	x
Does your project activity classify as an End-use Energy Efficiency Improvement project?	x	☐

Please justify the eligibility of your project activity:

This project will introduce energy efficient cook stoves into the Aberdares area that will reduce fuel use and associated greenhouse gas emissions by end users. Other benefits will include contributions to local sustainable development issues such as deforestation and illnesses caused by smoke inhalation. This is in line with the stated aims of the GS.

The project will be classified as small scale, producing a total emissions reduction of less than 73,833 tonnes CO₂e/year, which is equivalent to the 180GWh_{th} limit specified by the UNFCCC. The project will be carried out inline with the Gold Standard methodology “Improved cook-stoves and kitchen regimes V.02”. The project falls into the end-use energy efficiency improvement category, defined as the reduction in the amount of energy required for delivering or producing non-energy physical goods or services.

The project type eligibility is outlined in Annex C of the gold standard methodology v2.1 under “Improved distributed heating and cooking devices (e.g. biodigesters, cook-stoves), and distributed micro-scale electricity generation units (e.g. micro hydro and PV for households)”.

Eligibility criteria:

“Project activities involving a large amount of small, distributed heating, cooking or electricity generation devices using renewable energy sources shall provide the Gold Standard with a clear description of the transfer of credits ownership all along the investment chain, and with proof that end users are aware of and willing to give up their rights on emission reductions.”

Following free distribution of stoves, end users will be made aware that all credits generated will be transferred to co2balance UK Ltd and that in receiving the technology without payment they agree to this transfer. The project will reduce the production of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). The project is located in Kenya, which is part of the OECD Development Assistance Committees’ ODA recipient list; this project however will not be a recipient of any ODA. A signed declaration attesting to this will be provided during validation and will appear in the GS passport for this project.

Pre Announcement	Yes	No
Was your project previously announced?	☐	x
Explain your statement on pre announcement		

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C.4. Greenhouse gas

[See Toolkit 1.2.d]

Greenhouse Gas	
Carbon dioxide	x
Methane	x
Nitrous oxide	x

C.5. Project Registration Type

[See Toolkit 1.2.f]

Project Registration Type	
Regular	x

Pre-feasibility assessment	Retroactive projects (T.2.5.1)	Preliminary evaluation (eg: Large Hydro or palm oil-related project) (T.2.5.2)	Rejected by UNFCCC (T2.5.3)
	☐	☐	☐

If Retroactive, please indicate Start Date of Construction dd/mm/yyyy: Not Applicable

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SECTION D. Unique project identification

D.1. GPS-coordinates of project location

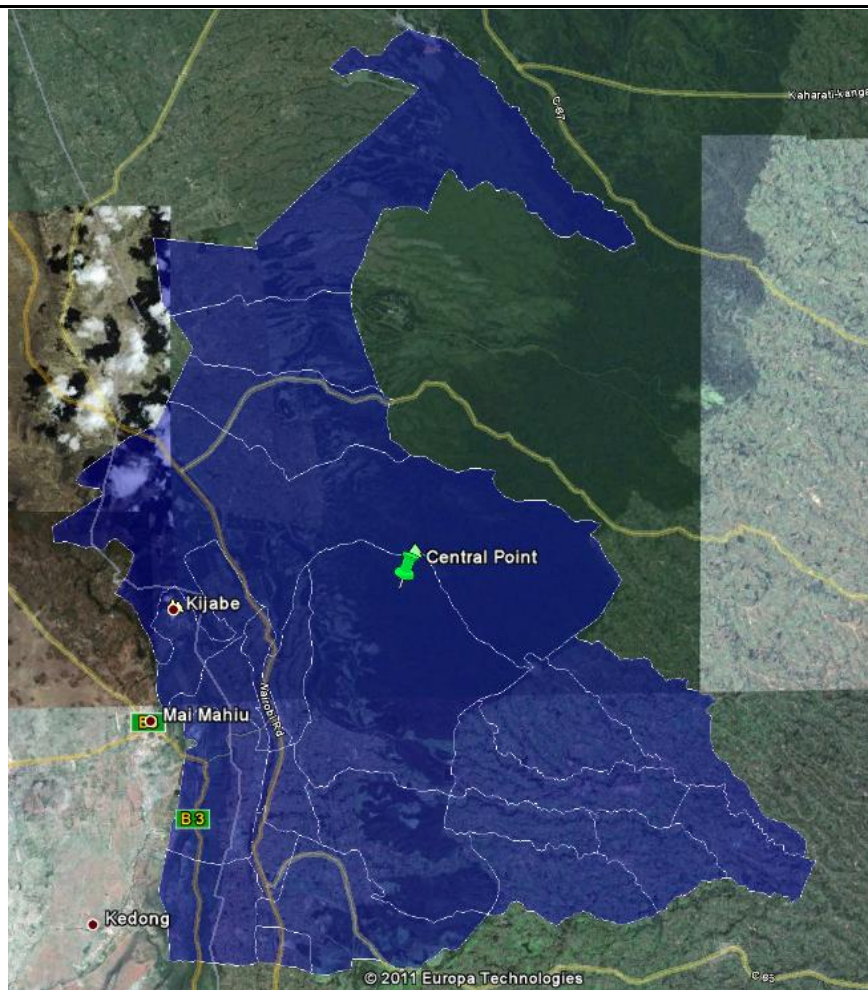
	Coordinates
Latitude	0° 53' 34.38" S
Longitude	36°40'53.25" E



Explain given coordinates

A central coordinates for the project has been given, coordinates showing project area are provided in the PDD.

D.2. Map



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SECTION E. Outcome stakeholder consultation process

E.1. Assessment of stakeholder comments

Neither major environmental or other concerns were raised during the stakeholder consultation process therefore the project design will not be changed.

The stakeholders seem very supportive towards the development of the proposed project, as it reflects the pillars of sustainability: environment, society and economy.

Stakeholder comment	Was comment taken into account (Yes/ No)?	Explanation (Why? How?)
How high is the stove?	No	Women in the selected region prefer to sit whilst cooking. Hence, it was explained that the stove will not be constructed very high and women will still be able to sit and cook. No project changes required
A family of 10 and a family of 3 use differing sizes of stoves and cooking utensils; will all the stoves be the same size?	No	We are limited in capacity to construct stoves that would cater to particular needs such as family sizes. Hence, it was explained that all stoves will be the same standardized size but could accept different sized cooking pots; therefore the size of cooking utensils would not matter. No project changes required
Will the structure be permanent?	No	The stoves need to be fixed for future monitoring of emissions reductions and

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		verifications. No project changes required.
People are used to warming the house with stoves. Will the new stove provide the same heating effect?	No	Our stoves are primarily designed for cooking, therefore heat generated will be centralised. It was explained that the new stove will not produce as much heat as an open fire but it will be sufficient enough to warm the house.
A question arose about stove placement within the house for best heat distribution.	Yes	It was recommended that the stove be placed in the centre of the house. If this is undesirable, it would be placed wherever the owner intends it. No project changes required
Is it better to use wet or dry wood to reduce smoke?	No	The new stove will produce a minimal amount of smoke regardless of wet or dry wood fuel usage. No project changes needed
Where is the CO₂ outlet on the stove?	No	CO₂ and other exhaust gasses escape around the cooking pot; this increases the efficiency of the stove for cooking. It was explained that the stove just reduces the amount of CO₂ and smoke emitted. No project changes required

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Women normally cook for large social events; what is the maximum size that the new stove can feed?	No	Stoves can cook for approximately 8 to 10 people. It was suggested that during such events, neighbours can cook using both their stoves thus cooking for a greater number of people. No project changes required

E.2. Stakeholder Feedback Round

Please describe report how the feedback round was organised, what the outcomes were and how you followed up on the feedback.

Description of Aberdares ICS project SFR

The following documents have been made available as part of the SFR for Aberdares improved cook stove project; LSCR, PDD, Passport.

Email invitations were sent 1st January 2011 to all non-resident stakeholders inviting them to the online SFR where documents were posted at www.carbonzerofederation.com/projects with the opportunity for stakeholders to email their feedback to the proponent.

Content of the email was as follows:

'Dear Sir/Madam,

Co2balance is inviting all project stakeholders to provide feedback on the documentation associated with our Gold Standard improved cook stove projects in Kenya. You are being contacted as you have been identified as a stakeholder and were also invited to the local stakeholder consultation. If you would like to, please follow this link to download the documents and provide feedback through the feedback link provided.

www.carbonzerofederation.com/projects

Kind regards,

Mark'

The following non-resident stakeholders were made aware of the web-based SFR:

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Organisation	Name	Email
Ministry of Environment & Natural Resources	Permanent Secretary, Ministry of Environment and Mineral Resources	psoffice@environment.go.ke
Ministry of Energy	-	ps@energy.go.ke
National Environment Management Authority (DNA)	Mr. Avignon Mwinzi	dgnema@nema.go.ke
UNEP	Mr. Robert Ondhowe	robert.ondhowe@unep.org
The Caucus for Women's Leadership	Peter Ochola	info@kwpcacucus.org
The Profin Group	Francis Lewah	francis.lewah@theprofiningroup.com
Manasseh Associates	Edgar Manasseh	manassehedgar@hotmail.com
Kenya Forests Working Group	Michael Gachanja	mgachanja@kenyaforests.org
Energy for Sustainable Development Africa	-	esda@esda.co.ke
Aberdares National Park	Felix Mgangi	aberdare@wananchi.com
Africa Business Insight Ltd	Andrea Bohnstedt	andrea.bohnstedt@ratio-magazine.com
Nature Kenya	Paul Matiku	office@naturekenya.org
Lewa Wildlife Conservancy	-	info@lewa.org
Kenya Wildlife Service	-	kws@kws.go.ke
REEP	John French	amanda.luxande@reeep.org
Eco Plan	Elizabeth Nzani Wachira	elizabeth@ecoplankenya.com
Helio International	Helene Connor	helene.connor@helio-international.org
WWF	Kimunya Mugo	KMugo@wwfearpo.org
Greenpeace International		info.africa@greenpeace.org
Kenya Forest Service	-	info@kenyaforestservice.org
Mercy corps	Dorothy McIntosh	dmcintosh@uk.mercycorps.org
Corporate Green Africa	Ken Kihara	ken@guerrillafrica.com Address failed
Green Belt Movement Limited	Lucy Wanjohi	gbm@greenbeltmovement.org
Gold Standard regional manager	Nahla Sabet	nahla@cdmgoldstandard.org
Eco Concern	Nawashon N.H	No email available
Eco Concern	Joseph K Kung	No email available
Rhino Ark	James N. Githui	rhinoark@wananchi.com
Rhino Ark	Adam Mwangi	rhinoark@wananchi.com

No feedback was received through this part of the round.

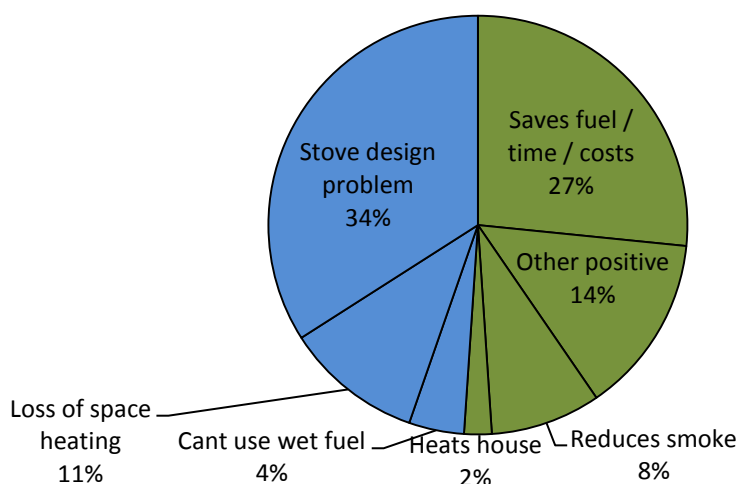
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Four copies of the documents were placed in hardcopy in local area chiefs' and community leaders' offices spread across the project sub-locations, week commencing 17th January 2011 during the Validation site visit. A covering letter was also written explaining why the documents had been placed there, as well as feedback forms to be collected at the end of the round.

In line with the GS requirements, the SFR ran for at least 2 months until 30th March 2011.

In total 16 feedback forms were filled out by local residents, the comments made were grouped in a spreadsheet and results are shown in the chart below.

General feedback (16 respondents from 149 stove owners, 94 comments received in total)



There was a nearly 50/50 mixture of positive and negative feedback around the project, with the majority of positive feedback focussing on the stove saving fuel and factors associated with this (time/costs). Many respondents also commented on the reduced smoke in the household due to the improved combustion levels of the stove, 2 respondents commented that the stove provided heat for the home.

The negative comments about the project generally related to issues with the use of the technology, co2balance is working with local communities in the project area to provide stove use workshops and education which will address these issues and address any need for further actions. This will be achieved through the 'monitoring and evaluation team' which consists of a number of 'community officer' full- time, locally based, staff who are responsible for stakeholder engagement in the project. The outcomes of training and focus groups held will be fed back to the co2balance projects development team.

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SECTION D. SUSTAINABLE DEVELOPMENT ASSESSMENT

F. 1. Own sustainable development assessment

i. 'Do no harm' assessment

Safeguarding principles	Description of relevance to my project	Project risks	Mitigation measure
The project respects internationally proclaimed human rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Rights abuses.	The proposed project does not violate this principle. We will adhere to the host country's commitment to: Universal Declaration of Human Rights (UDHR) International Covenant on Economic, Social and Cultural Rights, Accession 01.05.1972¹ International Covenant on Civil and Political Rights Kenya's Accession 01.05.1972¹	Low (all parties involved are traceable reputable enterprises)	The project would not violate this principle. Similar projects conducted in other countries have demonstrated that there are no violations on human rights.

¹ <http://www1.umn.edu/humanrts/research/ratification-kenya.html>

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The project does not involve and is not complicit in involuntary resettlement.	The proposed project does not violate this principle. People have the right to chose whether they want the stove in accordance with Article 1 of the International Covenant on Economic, Social and Cultural Rights, Kenya's Accession 11.06.1993,^{1, 2}	Low (no party involved will be impacted by this principle)	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries.
The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage.	The stove will not critically alter cooking practices; it is an improved technology of the same cooking method. Kenya's commitment to International Covenant on Economic, Social and Cultural Rights 11.06.1993¹ will ensure that this principle is not violated	Low (no party involved will be impacted by this principle)	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries.

² <http://www1.umn.edu/humanrts/instree/b2esc.htm>

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The project respects the employees' freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights	The nature of this project does not violate this principle. Right to Organise and Collective Bargaining Convention. Kenya Ratified 13.01.1964³	Low (no party involved will be impacted by this principle)	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries.
The project does not involve and is not complicit in any form of forced or compulsory labour.	Possible forced or compulsory labour. However, co2balance will ensure all partners adhere to Article 8 a) of the International Covenant on Economic, Social and Cultural Rights, Kenya Ratification 01.05.1972^{3,4}	Low (as all parties involved are traceable reputable enterprises)	All partners adhere to co2balance's Anti Fraud/ Anti Corruption policy. Partners also sign our binding policy which highlights the safeguarding principles. Manufacturing and distributing stoves involves employing local builders. Workers are formerly hired and ensured with working conditions in line with the national average.
The project does not employ and is not complicit in any form of child labour.	Possible child labour. However Kenya is bound to the Convention on the Rights of The Child Accession 30.07.1990 (Article	Low (as all parties involved are traceable reputable enterprises)	The age of all employees will be recorded. Employees are required to have a national ID card. Copies of this will be inserted into their work

³ <http://www1.umn.edu/humanrts/research/ratification-kenya.html>

⁴ <http://www1.umn.edu/humanrts/instate/b2esc.htm>

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	32)³. co2balance will ensure that all partners are compliant with rules set out. Kenya was also ratified on 7 May 2001 under the Worst Forms of Child Labour Convention, 1999 (No. 182), co2balance will ensure all partners adheres to Kenya's Children Act, 2001⁵		contract. Stove builders are reputable and do not make use of child labour. Proof of reputation will be delivered with the PDD (letter from all partners involved in the project)
The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis.	None of our project partners are involved in any discrimination co2balance abides by the: Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), Kenya Accession 09.03.1984³ International Convention on the Elimination of All	Low (all parties involved will not be significantly impacted by this principle)	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries

⁵ <http://www.ilo.org/public/english/dialogue/ifpdial/info/national/ken.htm>

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	Forms of Racial Discrimination; Kenya Accession 13.09.2001 ³		
The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments.	Possible exposure to hazardous chemicals in construction phase. co2balance would abide by Kenya's Occupational Safety and Health Act (OSHA) No 15 of 2007 Cartagena Protocol on Biosafety. Ratified 01.24.2002⁶	Low (as all parties involved are traceable reputable enterprises)	All employees are appropriately trained in health and safety for the construction of stoves and handling of construction products. They are not exposed to unsafe or unhealthy work environments. Proof of this will be provided with the PDD (letter from all our project partners)
The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.	The project alleviates environmental challenges. It decreases unsustainable harvesting of wood from forests and the stove construction phase is conducted in a low impact manner. co2balance abides by the Constitution of Kenya's Environment Management and	Low (all parties involved will not be significantly impacted by this principle)	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries

⁶ <http://www.cbd.int/doc/handbook/cbd-hb-07-en.pdf>

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	Coordination Act 1999, part V ⁷		
The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value, or (d) recognized as protected by traditional local communities.	Kenya is ratified to the Convention on biodiversity; Ratified 07.26.1994 ⁸ . The nature of this project does not violate this principle. The project protects natural habitats by decreasing wood fuel harvesting from local forests.	Low (all parties involved will not be significantly impacted by this principle)	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries
The project does not involve and is not complicit in corruption.	UN Convention against Corruption Ratification and Succession 09.12.2003 ⁹ co2balance screens project participants for corruption. We proceed on all our project through formal and transparent methods	Low	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries

⁷ <http://faolex.fao.org/docs/pdf/ken41653.pdf>

⁸ <http://www.cbd.int/doc/handbook/cbd-hb-07-en.pdf>

⁹ <http://www.unodc.org/unodc/en/treaties/CAC/signatories.html>

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F.2. Sustainable Development matrix

[See Toolkit 2.4.2 and Toolkit Annex I]

Insert table in section C3 from your Stakeholder Consultation report (Sustainable Development matrix).

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Gold Standard indicators of sustainable development.	If relevant copy mitigation measure from "do no harm" – table, or include mitigation measure used to neutralise a score of ‘–’	Check www.undp.or/mdg and www.mdgmonitor.org Describe how your indicator is related to local MDG goals	Defined by project developer	Negative impact: score ‘–’ in case negative impact is not fully mitigated score 0 in case impact is planned to be fully mitigated No change in impact: score 0 Positive impact: score ‘+’
Air quality	None required	MDG's: Promote gender equality and empower women (3), Reduce child mortality (4), Improve maternal health (5), and Ensure	<i>Parameters: Total suspended particulate (TSPM). Respirable suspended particulate matter</i>	+

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		environmental sustainability (7). The improved stoves result in lower exposure levels and times to the selected parameters during cooking. This applies particularly to women and children who are most likely to be affected by this. Stoves are constructed from kits, they will be provided to the contractor by co2balance. These consist of a fired clay liner, fired bricks and a cast iron pot plate. All components are produced in factories on the outskirts of Mombassa. Although this may affect national air quality, it is likely to be insignificant in relation to air pollution reduction from the improved stove use. A detailed discussion will be made as part of the leakage assessment in the PDD.	<i>(RSPM).- Measured indirectly by fuel consumption</i> A reduction in non-renewable biomass fuel consumption will result in lower levels of TSPM and RSPM in the household environment. Investigations will be made into the practicality of monitoring brick production emissions; this will be discussed in detail in the PDD	
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Water quality and quantity	None required	MDG: Ensure environmental sustainability (7) The reduction in wood required for cooking will reduce unsustainable harvesting of surrounding forests, contributing to environmental sustainability.	Kenya is classified as a chronically water scarce country, with an annual renewable fresh water supply of only 674 m³ per capita (globally a country is categorized as water stressed if its annual renewable freshwater supplies are between 1000-1700 m³ per capita). It is expected that avoided deforestation will lead to reduced soil erosion and hence reduced pollution of local water courses. However, this indicator is difficult to measure, hence it scores a neutral zero	0
Soil condition	None required	MDG: Ensure environmental sustainability (7)	Unsustainable harvesting will lead to deforestation and subsequently increased soil	0

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		The reduction in wood fuel required for cooking will reduce unsustainable harvesting of surrounding forests.	erosion. Reducing firewood usage will result in reduced soil erosion and an increase in soil organic matter. However, this indicator is difficult to measure, hence it scores a neutral zero	
Other pollutants	None required	Relevant MDG: Ensure environmental sustainability (7) -	There is no evidence to suggest that the project will relate to any other pollutants.	0
Biodiversity	None required	MDG: Ensure environmental sustainability (7) Fuel wood consumption in Kenya is the main cause of deforestation and degraded land. Improved stoves will reduce the unsustainable harvesting of wood.	Unsustainable harvesting of fuel wood will lead to deforestation which in turn threatens biodiversity. The reduction in wood consumption will reduce pressures on existing habitats, leading to increased biodiversity. This indicator may however prove difficult to measure; hence it scores a neutral zero.	0

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Quality of employment	None required	MDG: End poverty and hunger (1) Employment and training opportunities resulting from stove construction and maintenance and project monitoring will provide income to people in the area.	<i>Parameter: Number of workshops organised, number of attendees.</i> Local artisans will undergo a short course on stove design and construction. This will equip them with valuable skills in stove construction and stove maintenance. These are all skills that will be able to use in the future to gain employment. In addition to this, our data collection training includes sections on conflict resolution, group work and effective communication. These skills will enable people to be more productive, effective and efficient in any future work.	+
Livelihood of the poor	None required	MDG's: Eradicate extreme poverty & hunger (1), Promote gender equality and empower	<i>Parameter: Wood Consumption</i>	+

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		women (3), Reduce child mortality (4), Improve maternal health (5), Combat HIV/AIDS, malaria and other diseases (6) The reduction in wood required for cooking will result in less expenditure on cooking fuel. This also reduces dependence on an increasingly scarce resource. Reduced smoke exposure will benefit women and children, who are most usually the ones spending long hours for wood collection and present during cooking. Forest loss can increase certain health risks such as malaria; this project will significantly contribute to reducing deforestation rates and thus the incidence of such diseases.	<i>Through comparing the reduction in wood per household to the cost of wood it will be possible to calculate financial savings made by households.</i>	
Access to affordable and clean energy services	None required	MDG: Eradicate extreme poverty & hunger (1)	Parameter: Change in volume of Traditional Fuel	+

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		The reduction in wood required will allow lower expenditure on energy. The improved stoves will contribute to cleaner energy services.	<i>Consumption.</i> Through comparing the reduction in wood per household to the cost of wood it will be possible to calculate the savings made.	
Human and institutional capacity	None required	MDG: Promote gender equality and women empowerment (3) Women are in charge of cooking tasks; hence this project will bring a number of benefits to the local women.	Other than expected benefits to women it is not anticipated that there will be any changes in human and institutional capacity.	0
Quantitative employment and income generation	None required	MDG : Eradicate extreme poverty & hunger (1) The project will create jobs and generate income for those involved in stove production, distribution, installation, maintenance and project sampling. Reduced expenditure on fuel will	<i>Parameter: Income generated from employment created by the project.</i> Approximately 35 people will be directly employed for the project. About 95% of them are local people. The roles will involve mainly data collection, data entry, stove construction and local mediation.	+

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		essentially increase available income for project beneficiaries.		
Balance of payments and investment	None required	MDG: Develop a global partnership for development (8). It is not anticipated that the project will have any impact balance of payments and investment.	This indicator will not be significantly impacted by the project	0
Technology transfer and technological self-reliance	None required	Eradicate extreme poverty & hunger (1), Ensure environmental sustainability (7) The project will bring the improved cook stove technology to the area.	<i>Parameter: Number of training workshops organized to teach people to build the stove.</i> Data Collectors: 10+ people Stove Construction Training: 30 + people expected to be trained in stove construction during the duration of the project.	0
Justification choices, data source and provision of references				

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Air quality	A reduction in non-renewable biomass fuel consumption will result in lower levels of TSPM and RSPM in the household environment. Evidence of direct relationships between improved stoves and emissions of air pollutants: Fullerton, D.G., Brucen, N., Gordon, S.B. (2008). Indoor air pollution from biomass fuel smoke is a major health concern in the developing world. <i>Royal Society of Tropical Medicine and Hygiene</i>. (102), 843-851. There is evidence of a direct relationship between exposure to biomass smoke and health, as published in this study by the WHO (World Health Organisation, see page 11) http://whqlibdoc.who.int/hq/2002/WHO_SDE_OEH_02.05.pdf [Accessed September 24th, 2010] This can be further supported by the following health impact report published by the FAO (Food and Agriculture Organisation – UN): http://www.fao.org/docrep/005/y4450e/y4450e06.htm [Accessed September 24th, 2010] In consideration of the scale of the project and the consultancy costs associated with this type of sampling it has been decided not to measure these air quality parameters directly but to use the amount of wood consumed as a secondary parameter for this indicator and determine whether the recipients of project technology have experienced any improvements in respiratory health through the kitchen surveys.
Water quality and quantity	Kenya is classified as a chronically water scarce country, with an annual renewable fresh water supply of only 674 m³ per capita (globally a country is categorized as water stressed if its annual renewable freshwater supplies are between 1000-1700 m³ per capita). - World Bank working paper no.69 (2006). Climate Variability and Water resources Degradation in Kenya, Improving Water Resources Development and Management. Due to the scale of the project it is unlikely that these improvements as a result of the project will be directly measureable and

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	attributable to the project when the affects of other initiatives and natural environmental variability are taken into consideration. In light of this it has been decided not to measure water quality and quantity parameters directly but to use the amount of wood consumed as a secondary parameter for this indicator. Whereby, reduced wood consumption will result in reduced pollution and a stabilised water table.
Soil condition	Unsustainable harvesting may lead to deforestation and subsequently soil erosion. This is supported by the following UNEP report on Kenya's Green Development. http://www.unep.org/dewa/africa/KenyaAtlas/PDF/Kenya_Atlas_FINAL_PR.pdf [Accessed September 24th, 2010] Due to the scale of the project it is unlikely that this improvement as a result of the project will be directly measureable and attributable to the project when the affects of other initiatives and natural environmental variability are taken into consideration. It is therefore proposed to use wood consumption as a secondary parameter for this indicator.
Other pollutants	There is no evidence to suggest that the project will relate to any other pollutants. There is no evidence of a direct relationship between the improved stove to be used in the project and the OTHER emissions of air pollutants beside the stated above in the air quality indicator, this is supported by a study conducted by the University of Berkerley: Smith, K.R., Dutta, K., Gusain, P.P.S., Masera, O., Berrueta, V., Edwards, R., Bailis, R., Shields, K.N., (2007). Monitoring and evaluation of improved biomass cookstove programs for indoor air quality and stove performance: conclusions from the Household Energy and Health Project. <i>Energy for Sustainable Development</i>. XI (2), 5-18.
Biodiversity	Unsustainable harvesting of fuel wood may lead to deforestation which in turns threatens biodiversity. This is supported by a study conducted by the FAO which found that a decrease in wood demand and production can degrade surrounding forest habitats and therefore reduce destruction of local biodiversity. ftp://ftp.fao.org/docrep/fao/010/i0139e/i0139e06.pdf [Accessed September 27th, 2010]

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	Due to the scale of the project it is unlikely that this impact will be directly measureable and attributable to the project when the affects of other initiatives and natural environmental variability are taken into consideration. It is therefore proposed to use wood consumption as a secondary parameter for this indicator.
Quality of employment	Parameter to measure indicator: Number of workshops organised, content and attendees. Working conditions during the project. This indicator can be followed and measured from the internal documents that will be produced to record in detail the quality of the employment delivered. To compare the quality of employment to the national average see: http://hivinsite.ucsf.edu/global?page=cr09-ke-00&post=19&cid=KE#General Economy [Accessed September 27th, 2010]
Livelihood of the poor	The reduction in wood required for cooking will result in less expenditure on cooking fuel releasing a portion of household income for other uses. Dependence on an increasingly scarce resource is also reduced. Reduced smoke exposure will benefit the health of women and children, who are most usually present during cooking. The links between improved stoves and indications of improvement on the livelihood of the poor are stated on the following report (see page 4): http://www.gtz.de/de/dokumente/gtz2010-en-carbon-markets-for-improved-stoves.pdf [Accessed September 27th, 2010] The relationship between forest loss and malaria is supported by the following report: http://www.unep.org/dewa/africa/KenyaAtlas/PDF/Kenya_Atlas_FINAL_PR.pdf [Accessed September 27th, 2010] Wood cost, wood consumption and time spent on fuel collection would be monitored through questionnaires.
Access to affordable and	The reduction in wood required will allow lower expenditure on energy.

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clean energy services	Energy poverty across the country is demonstrated in the energy atlas published by the UNDP (see pages 4 and 5): http://mirror.undp.org/kenya/KenyaEnrgyAtlasFinal-UN.pdf [Accessed September 28th, 2010] As well as the following report published by the Intermediate Technology Development Group (see page 1): http://ehs.sph.berkeley.edu/HEM/hem/China%20Stoves/Presentations/19_Kenya_Daniel_Theuri/Rural%20Energy,%20stoves%20and%20IAP%20final_report_Eng.pdf [Accessed September 28th, 2010] Wood cost, wood consumption and time spent on fuel collection would be monitored through questionnaires.
Human and institutional capacity	It is not anticipated that there will be any changes in human and institutional capacity. Due to the nature of monitoring and measuring this indicator this will score neutral. See (page 2 and 12): http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/sectors/files/darfur_final_summary.pdf [Accessed September 28th, 2010]
Quantitative employment and income generation	As a result of the stove project new employment opportunities will emerge related to the different phases and scopes of the project. The number of employment opportunities created and their specifications will be recorded for this purpose. See: http://hivinsite.ucsf.edu/global?page=cr09-ke-00&post=19&cid=KE#GeneralEconomy [Accessed September 28th, 2010] The direct parameter to measure indicator will be the household income generated from employment created by the project using internal records among the parties involved in the project.
Balance of	It is not anticipated that the project will have any impact balance of payments and

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payments and investment	Investment. This is a small scale project at the household level, therefore the indicator scores a neutral value because it is not expected a significant and monitorable value.
Technology transfer and technological self-reliance	The project will bring the wood efficient stove technology to the area. This will be monitored through the number of training workshops organised and surveys on how common place similar stoves become in the project area.

SECTION G. Sustainability Monitoring Plan

[See Toolkit 2.4.3 and Toolkit Annex I]

Copy Table for each indicator

No	1
Indicator	Air Quality
Mitigation measure	None
<i>Repeat for each parameter</i>	
Chosen parameter 1.1	Total suspended particulate matter (TSPM) – measured indirectly by wood consumption
Current situation of parameter	As determined by research (see table above) and field staff, traditional cooking methods produce large amounts of TSPM. It is not justifiable to measure this quantitatively but it will be measured qualitatively as described below.
Estimation of baseline situation of parameter	The baseline is determined by the current situation.
Future target for parameter	The project aims to reduce wood consumption and hence make a reduction in the defined parameter.

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Way of monitoring	How	Kitchen Performance Tests & Kitchen Surveys
	When	Biennially and quarterly, respectively
	By who	Expert surveying team
Chosen parameter 1.2		Respirable suspended particulate matter (RSPM) – measured indirectly by wood consumption
Current situation of parameter		As determined by research (see table above) and field staff, traditional cooking methods produce large amounts of RSPM. It is not justifiable to measure this quantitatively but it will be measured qualitatively as described below.
Estimation of baseline situation of parameter		The baseline is determined by the current situation.
Future target for parameter		The project aims to reduce wood consumption and hence make a reduction in the defined parameter.
Way of monitoring	How	Kitchen Performance Tests & Kitchen Surveys
	When	Biennially and quarterly, respectively
	By who	Expert surveying team

No		2
Indicator		Quality of employment
Mitigation measure		None
<i>Repeat for each parameter</i>		
Chosen parameter 2.1		Number of training workshops organised, number of attendees.
Current situation of parameter		3
Estimation of baseline situation of parameter		As defined by current situation.
Future target for parameter		3
Way of monitoring	How	Stove contractor records – collated
	When	Continuously
	By who	Project developer

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No		3
Indicator		Livelihood of the poor
Mitigation measure		None
<i>Repeat for each parameter</i>		
Chosen parameter		Wood consumption
Current situation of parameter		Wood consumption is known to be high amongst the project area population
Estimation of baseline situation of parameter		As defined by current situation
Future target for parameter		It is anticipated that wood consumption amongst stove beneficiaries will be reduced by at least 50%
Way of monitoring	How	Kitchen Performance Tests & Kitchen Surveys
	When	Biennially and quarterly, respectively
	By who	Expert surveying team

No		4
Indicator		Access to affordable and clean energy services
Mitigation measure		None
<i>Repeat for each parameter</i>		
Chosen parameter		Change in volume of traditional fuel consumption
Current situation of parameter		Traditional fuel consumption (wood) is known to be high amongst the project area population
Estimation of baseline situation of parameter		As defined by current situation
Future target for parameter		It is anticipated that wood consumption amongst stove beneficiaries will be reduced by at least 50%
Way of monitoring	How	Kitchen Performance Tests & Kitchen Surveys
	When	Biennially and quarterly, respectively
	By who	Expert surveying team

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No		5
Indicator		Quantitative employment and income generation
Mitigation measure		None
<i>Repeat for each parameter</i>		
Chosen parameter		Household income generated from employment generated by the project
Current situation of parameter		100,000Ksh
Estimation of baseline situation of parameter		As defined by current situation
Future target for parameter		4,615,500Ksh
Way of monitoring	How	Stove contractor/project developer records – collated
	When	Continuously
	By who	Project developer

No		6
Indicator		Technology transfer and self reliance
Mitigation measure		None
<i>Repeat for each parameter</i>		
Chosen parameter		Number of training workshops organised to teach people to build the stove
Current situation of parameter		9
Estimation of baseline situation of parameter		As defined by current situation
Future target for parameter		18
Way of monitoring	How	Stove contractor/project developer records – collated
	When	Continuously
	By who	Project developer

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Additional remarks monitoring

SECTION H. Additionality and conservativeness



This section is only applicable if the section on additionality and/or your choice of baseline does not follow Gold Standard guidance

H.1. Additionality

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H.2. Conservativeness

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ANNEX 1 ODA declaration



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www.co2balance.com

Date: 12/11/2010
Project reference: GS824
To: Gold Standard Foundation

Declaration of Non-Use of Official Development Assistance by Project Owner

As Project Owner of the above-referenced project, acting on behalf of all project participants, I now make the following representations:

I. Gold Standard Documentation

I am familiar with the provisions of Gold Standard Documentation relevant to Official Development Assistance (ODA). I understand that the above-referenced project is not eligible for Gold Standard registration if the project receives or benefits from Official Development Assistance under the condition that some or all credits coming out of the project are transferred to the ODA donor country. I now expressly declare that no financing provided in connection with the above-referenced project has come from or will come from ODA that has been or will be provided under the condition, whether express or implied, that any or all of the credits [CERs, ERUs or VERs] issued as a result of the project's operation will be transferred directly or indirectly to the country of origin of the ODA.

II. Duty to Notify Upon Discovery.

If I learn or if I am given any reason to believe at any stage of project design or implementation that ODA has been used to support the development or implementation of the project, or that an entity providing ODA to the host country may at some point in the future benefit directly or indirectly from the credits generated from the project as a condition of investment, I will make this known to the Gold Standard immediately.

III. Sanctions.

I am fully aware that under Section 10 of the Gold Standard Terms and Conditions sanctions and damages may be incurred for the provision of false information related to Projects and/or Gold Standard credits.

Signed: 

Name: Suzanne Longworth

Title: Director

On behalf of: co2balance

co2balance group Ltd registered in England and Wales Number 4889958. Registered Office as above. co2balance uk Ltd registered in England and Wales Number 04903159. Registered office as above.