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SECTION A.	Project Title
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Meru Improved Cook Stoves

SECTION B.	Project description
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Estimated start date of construction: February 2011

This project will involve the distribution of energy efficient stoves in the Meru community.

Meru is located on the Kathita River, on the northeast slopes of Mount Kenya, in an area of mixed forest and clearings, small towns, villages, and rural farms, and is mainly populated by people of the Ameru people. Majority of the villages in Meru are forest adjacent communities and are dependent on the forests for their firewood, leading to deforestation and poaching. The villages in Meru face all the problems of peri urban and rural areas all over Africa. Unemployment and the slumping economy have caused food security issues, increased homelessness, especially among small children. The problem of homelessness is compounded by the high incidence of AIDS related deaths in the area.

The co2balance project in Meru will be attempting to address some of these issues. We will be distributing our energy efficient stoves into the Meru households that in the absence of this project, would primarily cook using traditional inefficient stoves.

The stoves will be constructed, distributed and installed by local people under the guidance of co2balance Kenya Ltd. These stoves will utilise the efficient rocket technology. Initial testing has shown these stoves to be more than 50% efficient than traditional models. These stoves will be using less firewood and emitting less smoke, which will reduce daily firewood costs and alleviate illness caused by smoke inhalation.

The distribution of efficient stoves will result in emissions reductions associated with the reduction of the production and combustion of firewood derived from unsustainable sources.

In addition to reducing greenhouse gas emissions, so contributing to the mitigation of climate change, this project will contribute towards local benefits that will enhance the air quality in the area due to the reduction of the atmospheric pollutants.

Besides the benefits stated above, the project will provide the following co-benefits:

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- Reduced deforestation and degradation of surrounding forests, as less wood will be needed to cook;
- Reduced poverty, as the efficient wood stove reduces annual expenditure on cooking fuels;
- Reduced adverse health effects associated with indoor air particulate matter inhalation from the smoke due to the purpose-built stove design.
- Reduced cooking and wood collection time.
- Reduced hazards due to the exposure of the firewood collectors (mainly women) to the deep forest. There is a big concern on this last factor related to frequent rape cases and animal attacks during wood collection.






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

SECTION C. Proof of project eligibility

C.1. Scale of the Project


[See Toolkit 1.2.a]

Please tick where applicable:

Project Type	Large	Small
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

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	<input type="checkbox"/>	x
	<input type="checkbox"/>	<input type="checkbox"/>

	<input type="checkbox"/>
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C.2. Host Country

Kenya

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C.3. Project Type

[See Toolkit 1.2.c and Toolkit Annex C]

Please tick where applicable:

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	<input type="checkbox"/>	x
Does your project activity classify as an End-use Energy Efficiency Improvement project?	x	<input type="checkbox"/>

Please justify the eligibility of your project activity:

This project will introduce energy efficient cook stoves into the Meru area and 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 180GWhth 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 and that in receiving the technology without payment they agree to

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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.

Pre Announcement	Yes	No
Was your project previously announced?	<input type="checkbox"/>	x
Explain your statement on pre announcement		

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C.4. Greenhouse gas

Greenhouse Gas	
Carbon dioxide	x
Methane	x
Nitrous oxide	x

C.5. Project Registration Type

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)
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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° 20.143' S
Longitude	37° 43.115' E



Explain given coordinates

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?)
Relevant comments raised:		
What about schools and NGOs? Can they not get a stove?	No	At present we are focusing on domestic stoves. We do build institutional stoves, but they do not form part of the current project. Should the situation arise where we are able to provide a school or NGO within the community with an institutional stove, we will do so. However it is not our focus.
What is Rocket Stove Technology? Will the stove crack?	No	Stakeholders were provided with a picture of the stove and a description of its design. A co2balance representative explained the design to participants. They were told that we did not anticipate the stoves to crack but that if there were any problems with the stove, there would be a stove monitoring and repair structure in place to address it immediately. The process of reporting stove problems was explained to the stakeholders.
We are doing similar	No	co2balance aims to create projects

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<p>environmental work within the community. Why are we not partnering up?</p>		<p>with maximum community involvement and participation. We feel that it is essential to work closely with already existing initiatives and organisations. We requested that they send us information on what they are doing and which locations they are working within. We informed them that we would review their information and consider if and how we could create a synergy between co2balance and their organisations.</p>
<p>There are many conflicts within the community and people are often fighting about regional issues. If everyone is fighting about these regional and environmental issues then how can we do anything? Will you be able to do more meetings like this one to teach people about the environment?</p>	<p>No</p>	<p>We will be conducting a series of “mini “consultations within all the individual locations. This allows us to reach the people who were unable to attend the meetings, but at the same time addresses this stakeholder comment. These meetings can act as education workshops to create awareness on the local environmental problems and how the project addresses them. It will also encourage a dialogue about the current environmental conditions and encourage people to work together to address them.</p>
<p>Can we put more than one pot on the stove?</p>	<p>No</p>	<p>No, this is a single pot stove.</p>
<p>Other non-relevant comments raised:</p>		
<p>Do we have to pay for the materials for the stove?</p>	<p>No</p>	<p>co2balance explained all materials will be provided and no cost at all will be assigned to the project beneficiaries.</p>
<p> </p>		

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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.

This is the first draft of the GS Passport for this project, produced prior to the SFR. This document will be updated after the completion of the round

SECTION F. Outcome Sustainability assessment

F.1. 'Do no harm' Assessment

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

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

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<p>The project does not involve and is not complicit in involuntary resettlement.</p>	<p>The proposed project does not violate this principle.</p> <p>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}</p>	<p>Low (no party involved will be impacted by this principle)</p>	<p>There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries.</p>
<p>The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage.</p>	<p>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</p>	<p>Low (all parties involved will not be significantly impacted by this principle)</p>	<p>There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries.</p>
<p>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</p>	<p>The nature of this project does not violate this principle.</p> <p>Right to Organise and Collective Bargaining Convention. Kenya Ratified 13.01.1964³</p>	<p>Low (all parties involved will not be significantly impacted by this principle)</p>	<p>There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries.</p>
<p>The project does not involve and is not complicit in any form</p>	<p>Possible forced or compulsory labour.</p>	<p>Low (as all parties involved are</p>	<p>Manufacturing and distributing stoves involves employing local builders. Workers</p>

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

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

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

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of 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}	traceable reputable enterprises)	are formerly hired and ensured with working conditions in line to 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 32) ³ . co2balance will ensure that all partners are compliant with rules set out.	Low (as all parties involved are traceable reputable enterprises)	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 09.03.1984 ³ International Convention on the Elimination of All Forms of Racial Discrimination; Kenya Accession 13.09.2001 ³	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 provides workers with a safe	Possible exposure to hazardous chemicals in	Low (as all parties	All employees are appropriately trained in

⁵ <http://www.cbd.int/doc/handbook/cbd-hb-07-en.pdf>

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<p>and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments.</p>	<p>construction phase.</p> <p>co2balance would abide by Kenya's Occupational Safety and Health Act (OSHA) No 15 of 2007</p> <p>Cartagena Protocol on Biosafety. Ratified 01.24.2002⁵</p>	<p>involved are traceable reputable enterprises)</p>	<p>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)</p>
<p>The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle.</p>	<p>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 Coordination Act 1999, part V⁶</p>	<p>Low (all parties involved will not be significantly impacted by this principle)</p>	<p>There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries</p>
<p>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</p>	<p>Kenya is ratified to the Convention on biodiversity; Ratified 07.26.1994⁷. The nature of this project does not violate this principle. The project protects natural habitats by decreasing wood fuel harvesting from local forests.</p>	<p>Low (all parties involved will not be significantly impacted by this principle)</p>	<p>There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries</p>

⁶ <http://faolex.fao.org/docs/pdf/ken41653.pdf>

⁷ <http://www.cbd.int/doc/handbook/cbd-hb-07-en.pdf>

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(d) recognized as protected by traditional local communities.			
The project does not involve and is not complicit in corruption.	UN Convention against Corruption Ratification and Succession 09.12.2003 ⁸ co2balance screens project participants for corruption. We proceed on all our project through formal and transparent methods	Negligible	There are no reasons to think the project could violate this principle, as proven in previous similar projects undertaken in other countries
Additional relevant critical issues for my project type	Description of relevance to my project	Assessment of relevance to my project (low, medium, high)	Mitigation measure
None			
etc...			

⁸ <http://www.unodc.org/unodc/en/treaties/CAC/signatories.html>



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F.2. 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' assessment, and include mitigation measure used to neutralise a score of '-'	Check www.undp.org/mdg and www.mdgmonitor.org Describe how your indicator is related to local MDG goals	Defined by project developer	<u>Negative impact:</u> score '-' in case negative impact is not fully mitigated, score '0' in case impact is planned to be fully mitigated <u>No change in impact:</u> score '0' <u>Positive impact:</u> score '+'
Air quality	None required	MDG's: Promote gender equality and empower women (3), Reduce child mortality (4), Improve maternal health (5), and Ensure environmental sustainability (7). The improved stoves result in lower exposure levels and times	Parameters: Total suspended particulate (TSPM). Respirable suspended particulate matter (RSPM).- Measured indirectly by fuel consumption	+



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		<p>to the selected parameters during cooking. This applies particularly to women and children who are most likely to be affected by this.</p> <p>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 will be produced by a local contractor. 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.</p>	<p>biomass fuel consumption will result in lower levels of TSPM and RSPM in the household environment.</p> <p>Investigations will be made into the practicality of monitoring brick production emissions.</p>	
<p>Water quality and quantity</p>	<p>None required</p>	<p>MDG: Ensure environmental sustainability (7)</p>	<p><i>Parameter: Water quality and quantity.</i> Kenya is classified as a chronically</p>	<p style="text-align: center;">0</p>



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		<p>The reduction in wood required for cooking can reduce unsustainable harvesting of surrounding forests, contributing to environmental sustainability.</p>	<p>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).</p> <p>It is expected that avoided deforestation will indirectly 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</p>	
Soil condition	None required	<p>MDG: Ensure environmental sustainability (7)</p> <p>The reduction in wood fuel required for cooking will reduce unsustainable harvesting of surrounding forests.</p>	<p><i>Parameters: Soil erosion & Organic matter content.</i></p> <p>Research by the IFAO and CIFOR found that deforestation does have a role in small floods and topsoil erosion by eliminating the buffering and soil-anchoring effects of forests.</p>	0



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			<p>Therefore, unsustainable harvesting can lead to deforestation and subsequently increased soil 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.</p>	
Other pollutants	None required	<p>Relevant MDG: Ensure environmental sustainability (7)</p> <p>-</p>	<p><i>Parameter: none needed as score is neutral</i></p> <p>There is no evidence to suggest that the project will relate to any other pollutants.</p>	0
Biodiversity	None required	<p>MDG: Ensure environmental sustainability (7)</p> <p>6.2% (approximately 3,522,000 hectare) of Kenya is forested. Of this, 20.0% or roughly</p>	<p><i>Parameter: Number of affected habitats.</i></p> <p>The reduction in wood consumption will reduce</p>	0

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		<p>704,000 hectares is classified as primary forest, the most biodiverse form of forest. Between 1990 and 2000, Kenya lost an average of 12,600 hectares of forest per year. The amounts to an average annual deforestation rate of 0.34%. Between 2000 and 2005, the rate of forest change decreased by 1.4% to 0.34% per annum. In total, between 1990 and 2005, Kenya lost 5.0% of its forest cover, or around 186,000 hectares. Kenya lost 38,000 hectares of its primary forest cover during that time.</p> <p>Kenya has some 1847 known species of amphibians, birds, mammals and reptiles according to figures from the World Conservation Monitoring Centre. Of these, 4.0% are endemic, meaning they exist in</p>	<p>pressures on existing habitats, leading to increased biodiversity. This indicator may however prove difficult to measure; hence it scores a neutral zero.</p>	
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		<p>no other country, and 3.8% are threatened. Kenya is home to at least 6506 species of vascular plants, of which 4.1% are endemic.</p>	
<p>Quality of employment</p>	<p>None required</p>	<p>MDG: End poverty and hunger (1)</p> <p>Employment and training opportunities resulting from stove construction and project maintenance and income monitoring will provide income to people in the area.</p>	<p><i>Parameter: Number of workshops organised, number of attendees.</i></p> <p>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</p> <p style="text-align: center;">+</p>



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			<p>productive, effective and efficient in any future work.</p>	
<p>Livelihood of the poor</p>	<p>None required</p>	<p>MDG's: Eradicate extreme poverty & hunger (1), Promote gender equality and empower women (3), Reduce child mortality (4), Improve maternal health (5), Combat HIV/AIDS, malaria and other diseases (6)</p> <p>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.</p>	<p><i>Parameter: Time spent collecting wood, household expenditure on wood. - calculated from fuel wood savings.</i></p> <p>Financial savings can be calculated by comparing wood reduction per household to the cost of wood. The reduction in wood required for cooking will result in less expenditure on cooking fuel. These savings can be used by project beneficiaries for other purposes (clothes, schooling etc...)</p> <p>Reduced smoke exposure will benefit the health of women and children, who are most usually present during cooking.</p>	<p style="text-align: center;">+</p>

⁹ <http://classes.hortla.wsu.edu/uh390/2010/G2/UH390-2-2010-Paper2.pdf>

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		<p>In deforested areas, at high temperatures and low humidity malaria infection rates is increased⁹; this project will significantly contribute to reducing deforestation rates and thus the incidence of such diseases.</p>	<p>Reduction in wood required for cooking will also result in a reduction of time spent collecting fuel.</p>	
<p>Access to affordable and clean energy services</p>	<p>None required</p>	<p>MDG: Eradicate extreme poverty & hunger (1)</p> <p>The reduction in wood required will allow lower expenditure on energy. The improved stoves will contribute to cleaner energy services.</p>	<p><i>Parameter: Change in volume of Traditional Fuel Consumption.</i></p> <p>Through comparing the reduction in wood per household to the cost of wood it will be possible to calculate the savings made.</p>	<p style="text-align: center;">+</p>
<p>Human and institutional capacity</p>	<p>None required</p>	<p>MDG: Promote gender equality and women empowerment (3)</p> <p>Women are in charge of cooking tasks; hence this project will bring a number of benefits to the local women.</p>	<p><i>Parameter: Change in female earned income, Change in number of jobs and positions for women.</i></p> <p>Local women will be employed throughout different phases of the project primarily as data collectors and community engagement officers. This will be</p>	<p style="text-align: center;">+</p>



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<p>Quantitative employment and income generation</p>	<p>None required</p>	<p>MDG : Eradicate extreme poverty & hunger (1)</p> <p>The project will create jobs and generate income for those involved in stove production, distribution, installation, maintenance and project sampling.</p> <p>Reduced expenditure on fuel will essentially increase available income for project beneficiaries.</p>	<p>monitored through project employment records.</p>	
<p>Balance of payments and investment</p>	<p>None required</p>	<p>MDG: Develop a global partnership for development (8).</p> <p>It is not anticipated that the project will have any impact balance of payments and</p>	<p><i>Parameter: Income generated from employment created by the project.</i></p> <p>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.</p>	<p style="text-align: center;">+</p>
			<p><i>Parameter: Amount of domestic investment, amount of foreign direct investment</i></p> <p>This is a small scale project at the household level; therefore the indicator is not expected to revert</p>	<p style="text-align: center;">0</p>



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		investment.	to significant and monitorable values. However, this will be monitored as required	
Technology transfer and technological self-reliance	None required	Eradicate extreme poverty & hunger (1), Ensure environmental sustainability (7) The project will bring the wood efficient stove technology to the area.	<p><i>Parameter: Number of training workshops organized to teach people to build the stove.</i></p> <p>Data Collectors Training: 10 – 15 people Stove Construction Training: 30+ people expected to be trained in stove construction during the duration of the project.</p>	+

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Justification choices, data source and provision of references

A justification paragraph and reference source is required for each indicator, regardless of score

Air quality	<p>A reduction in non-renewable biomass fuel consumption will result in lower levels of TSPM and RSPM in the household environment.</p> <p>Evidence of direct relationships between improved stoves and emissions of air pollutants:</p> <p>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.</p> <p>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 December 2nd, 2010]</p> <p>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/009/a0789e/a0789e09.htm [Accessed December 2nd, 2010]</p> <p>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</p>
Water quality and quantity	<p>A decrease in wood demand and production will reduce climate change as a result of greenhouse gas emissions production and a consequent improvement in water</p>

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	<p>quality and quantity. Source: http://www.kenyaforestservice.org/index.php?option=com_content&task=view&id=92&Itemid=124 [Accessed December 2nd, 2010]</p> <p>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). http://www.wsup.com/sharing/documents/Kenyaclimatechangesummary2010.pdf [Accessed December 2nd 2010]</p> <p>Due to the scale of the project it is unlikely that these improvements 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. 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</p>
Soil condition	<p>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 December 2nd, 2010]</p> <p>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.</p>
Other pollutants	<p>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:</p>

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	<p>University of Berkeley: 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.</p>
<p>Biodiversity</p>	<p>6.2% (approximately 3,522,000 hectare) of Kenya is forested. Of this, 20.0% or roughly 704,000 hectares is classified as primary forest, the most biodiverse form of forest. Between 1990 and 2000, Kenya lost an average of 12,600 hectares of forest per year. The amounts to an average annual deforestation rate of 0.34%. Between 2000 and 2005, the rate of forest change decreased by 1.4% to 0.34% per annum. In total, between 1990 and 2005, Kenya lost 5.0% of its forest cover, or around 186,000 hectares. Kenya lost 38,000 hectares of its primary forest cover during that time. Kenya has some 1847 known species of amphibians, birds, mammals and reptiles according to figures from the World Conservation Monitoring Centre. Of these, 4.0% are endemic, meaning they exist in no other country, and 3.8% are threatened. Kenya is home to at least 6506 species of vascular plants, of which 4.1% are endemic.</p> <p>http://rainforests.mongabay.com/deforestation/archive/kenya.htm [Accessed 07 December, 2010]</p> <p>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.</p>
<p>Quality of employment</p>	<p>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.</p> <p>To compare the quality of employment to the national</p>

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	<p>average see: http://hivinsite.ucsf.edu/global?page=cr09-ke-00&post=19&cid=KE#General Economy [Accessed December, 7th 2010]</p>
<p>Livelihood of the poor</p>	<p>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 December, 7th 2010]</p> <p>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 December, 7th 2010]</p> <p>Wood cost, wood consumption and time spent on fuel collection would be monitored through questionnaires.</p>
<p>Access to affordable and clean energy services</p>	<p>The reduction in wood required will allow lower expenditure on energy. 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 December, 7th 2010]</p> <p>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 December, 7th 2010]</p> <p>Wood cost, wood consumption and time spent on fuel collection would be monitored through questionnaires.</p>

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Human and institutional capacity	<p>http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/sectors/files/darfur_final_summary.pdf [Accessed December, 7th 2010]</p>
Quantitative employment and income generation	<p>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.</p> <p>See: http://hivinsite.ucsf.edu/global?page=cr09-ke-00&post=19&cid=KE#General Economy [Accessed December, 7th 2010]</p> <p>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</p>
Balance of payments and investment	<p>It is not anticipated that the project will have any impact balance of payments and 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.</p>
Technology transfer and technological self-reliance	<p>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.</p>

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SECTION G. Sustainability Monitoring Plan

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.	
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	

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		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

No		3
Indicator		Livelihood of the poor
Mitigation measure		None
<i>Repeat for each parameter</i>		
Chosen parameter		Time spent collecting wood, household expenditure on wood. - calculated from fuel wood savings.
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		Human and institutional capacity
Mitigation measure		None
<i>Repeat for each parameter</i>		
Chosen parameter		Change in female earned income, Change in number of jobs and positions for women.
Current situation of parameter		We use women's group when we seek to employ community officers.
Estimation of baseline situation of parameter		As defined by current situation
Future target for parameter		We plan on increasing the use of women's group to employ educational officers.
Way of monitoring	How	Stove contractor/project developer records – collated
	When	Continuously
	By who	Project developer

No		6
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		7
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

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Way of monitoring	How	Stove contractor/project developer records – collated
	When	Continuously
	By who	Project developer

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



1 Discovery House, Cook Way, Bindon Road,
Taurton, Somerset, TA2 6BJ
t +44 (0)845 094 2620
f +44 (0)1823 336 776
enquiries@co2balance.com
www.co2balance.com

Date: 25/05/2011
Project reference: G5976
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 U.K. Ltd

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.

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