

# Gold Standard Passport



Developed by Ecofys, TÜV-SÜD and FIELD

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Annex 1 ODA declarations

## SECTION A.

### Project Title

Integrated Biomass Energy Conservation Project - Malawi.

## SECTION B.

### Project description

Malawi is over dependent on woodfuel,<sup>1</sup> which accounts for 93% of the country's aggregate energy use.<sup>2</sup> Deforestation is not only resulting in increased scarcity of woodfuel for energy but it is also causing many other environmental problems, which directly increase socio-economic vulnerability, such as increased soil erosion, river siltation, increased vulnerability to flooding, the sinking of the water table and reduced natural habitat for biodiversity. It is estimated that in Malawi, 90 percent of household and industrial energy requirements are met from forests.<sup>3</sup>

Tobacco is Malawi's main export<sup>4</sup> and an important cash crop for smallholder farmers. Smallholder tobacco producers that farm areas of around 1 hectare of land<sup>5</sup> use fuelwood as a fuel to 'flue-cure'<sup>6</sup> tobacco leaves in inefficient conventional barns. Although improved barn technologies are available, their use is mainly restricted to large-scale estates. Smallholder tobacco growers do not operate their own fuelwood plantations due to scarcity of land. One study stated that tobacco induced deforestation in Africa is probably most serious in Malawi.<sup>7</sup>

The project reduces greenhouse gas emissions from non-renewable biomass fuel by dissemination of improved household and institutional cook-stoves and fuel-efficient rocket barns to replace existing inefficient curing barns. The project is based on research and development in the stoves and barns by the Programme for Biomass Energy Conservation (ProBEC) in Malawi. A company that promotes fuel-efficient technologies called Hestian Rural Innovation Development was founded on the basis of this pilot work in 2008.

This project disseminates on a large-scale four types of improved cook-stoves and improved tobacco-curing barns or 'rocket barns'. (see **Error! Reference source not found.**, A.2 2 and

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<sup>1</sup> Woodfuel is used to mean all fuels originating from woody biomass, including charcoal, in distinction from firewood or fuelwood, which are understood to mean the wood in its original composition.

<sup>2</sup> National Energy Policy, 2003.

<sup>3</sup> Chipompha, N.W.S., Belo, W.S. & Mjojo, D.P.K. *Deforestation in Malawi, its nature, causes and corrective methods*. Forestry Department, Lilongwe, Malawi (1993).

<sup>4</sup> Tobacco is the main export crop accounting for over 70.0 per cent of total export earnings. (Source: Malawi Growth and Development Strategy "From Poverty to Prosperity 2006-2011", GoM, 2007).


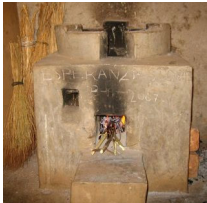



<sup>5</sup> Ninety-five per cent of rural households in Malawi have 1 hectare or less and the average in the Southern Region is just 0.4 ha (National Forestry Programme, 2001).

<sup>6</sup> *Flue-cured* tobacco is strung onto tobacco sticks, which are hung from tier-poles in curing barns. These barns have flues which run from externally fed furnaces, heat-curing the tobacco without exposing it to smoke, slowly raising the temperature over the course of the curing. Hence, flue-cured tobacco is not naturally cured by air or sun, but artificially by external energy sources. Tobacco is cured to obtain the characteristic taste, aroma and colour, and to preserve it for storage, transport and processing.

<sup>7</sup> Geist, H. "How tobacco farming contributes to tropical deforestation". Paper presented at the Tobacco Deliberation Group Meeting, National Committee for International Cooperation and Sustainable Development, Utrecht, 29 October 1997.

A.2 3):

- a. Improved fuel-efficient portable ceramic stoves (*Chitetezo mbaula* – the “protective stove”),
- b. Improved fuel-efficient fixed *esperanza* stoves,
- c. Improved fuel-efficient rocket barns for curing agricultural produce
- d. Institutional Stoves
- e. Urban Cook Stoves

				
Portable ceramic stove	Fixed <i>esperanza</i> stove	Rocket Barn	Institutional Cook Stove	Urban Cook Stove

The improved stoves reduce fuel consumption by improved combustion and improve heat transfer. The stoves raise the cooking pot to the hottest point above the flame. The fixed stove, institutional cook stove and the urban cook stove have elbow-jointed combustion chambers that increase combustion efficiency.

The ‘rocket barn’ reduces fuel consumption by introduction of a double chimney that uses ‘waste heat’ to increase convective flow through the tobacco and barn structure for improved heat transfer systems, which ensure equal heat distribution with improved air-flow minimising the risk of barn fires. The rocket barn has a twofold increase in heat exchanger surface area compared to the conventional barn and has an improved, extended, and durable “*venturi*” furnace. The term ‘rocket barn’ was chosen for the improved barns as the combustion chambers of the barns are based on the well-proven rocket technology for improved cook-stoves.

Tests were conducted in 2008 and 2009 to measure the fuel savings introduced by the improved devices, with the following results:

- The improved portable ceramic stove reduced wood consumption in sampled households by 39% on average, in some cases saving more than 50% of fuel used previously,
- The fixed *esperanza* stove reduced wood consumption by 37% on average in the sampled households (a further more comprehensive survey and test is being carried out to assess firewood savings),
- The improved rocket barns reduced fuel-use by 63% on average in sampled farms.

During the second round stakeholder consultation, feedback was received suggesting that the project incorporate:

- (a) efficient cook stoves sized for cooking at institutions such as schools, colleges, prisons and hospitals (Institutional Cook Stoves); and
- (b) efficient cook stoves that are appropriate for urban and peri-urban areas and that allow for more efficient cooking with charcoal and/or a mix of charcoal and wood (Urban Cook Stoves).

As a result of this feedback the project intends to incorporate Institutional Cook Stoves (ICS) and Urban Cook Stoves (UCS). Tests will be conducted in 2009/2010 to measure the fuel savings introduced by the ICS and UCS.

The ICS and UCS are expected to apply proven 'rocket' technology by introduction of an insulated combustion chamber, increasing combustion efficiency and retaining heat while also raising the cooking pot to the hottest point above the flame. Both stoves will further increase heat transfer by having the cooking pot rest within a skirt.

The improved stoves and barns significantly reduce fuel consumption and greenhouse gas emissions. They simultaneously provide ancillary benefits to users and families in the form of reduced exposure to indoor air pollution (in the case of stoves), relief from high fuel costs; less time hand-gathering domestic fuel-wood and reduced burden for farmers to transport wood over distances that are increasing. Public benefits of the devices promoted come in the form of reduced pressure on Malawi's natural resources.

The Project is being implemented in all three Regions of Malawi: Southern, Central and Northern. The project disseminates both fixed stoves and barns in the Central and Northern regions and concentrates portable ceramic stove dissemination in the Southern Region. Institutional and urban cook stoves will be disseminated throughout Malawi. Improved portable ceramic stoves are marketed at a village level in collaboration with local and traditional authorities, while the fixed stoves, urban cook-stoves and rocket barns are disseminated in collaboration with micro-finance institutions and agro-industries. Institutional cook stoves may be disseminated through school feeding programmes and via national institutions.

Estimated start date of construction: 24 November, 2008.

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**Gold Standard Annexes to Toolkit Version 2.1 effective 1 July 2009 – use together with  
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**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"/>
	<b>x</b>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

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

Malawi - the project is voluntary and therefore is not hosted or invested in by a Party to the Kyoto Protocol.

<b>C.3.</b>	<b>Project Type</b>
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**[See Toolkit 1.2.c and Toolkit Annex C]**

*Please tick where applicable:*

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

*Please justify the eligibility of your project activity:*

The methodology includes provision for a large amount of small, distributed heating and cooking low-emission devices and kitchen / barn management regimes that replace relatively high-emission baseline scenarios. Improved biomass stoves are included as applicable technologies as are measures that reduce consumption of non-renewable biomass or other greenhouse emitting fuels. Tobacco curing barns, although not applied for cooking, are biomass fired and reduce non-renewable biomass consumption. The stoves and barns will be introduced to householders, institutions and smallholding farmers within a distinct geographical area through the project. The shift to low emission regimes will occur in a progressive increase over the project years in adoption of improved stoves and barns. The baseline technologies are inefficient stoves and barns that are fuelled with woody biomass.

<b>Pre Announcement</b>	<b>Yes</b>	<b>No</b>
Was your project previously announced?	<input type="checkbox"/>	<b>x</b>
Explain your statement on pre announcement  The project was not previously announced.		

<b>C.4. Greenhouse gas</b>
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[See Toolkit 1.2.d]

<b>Greenhouse Gas</b>	
Carbon dioxide	<b>X</b>
Methane	<b>X</b>
Nitrous oxide	<b>X</b>

<b>C.5. Project Registration Type</b>
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[See Toolkit 1.2.f]

<b>Project Registration Type</b>	
Regular	

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:** \_\_\_\_\_



**D.1. GPS-coordinates of project location**

[See Toolkit 1.6]

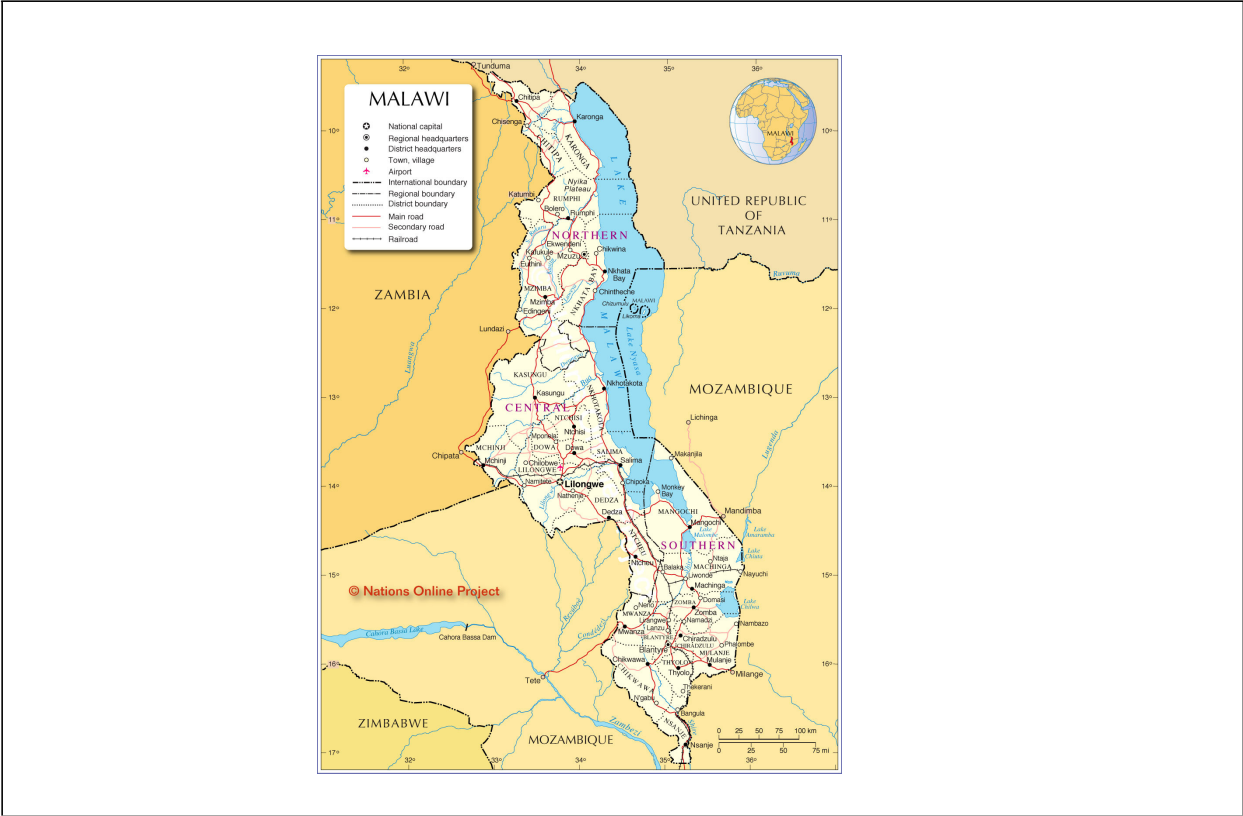
	<b>Coordinates</b>
<b>Latitude</b>	13° 59' -1" S
<b>Longitude</b>	33° 47' -1" E

*Explain given coordinates*

The Project is being implemented in all three Regions of Malawi: Southern, Central and Northern.

The given coordinates are for Lilongwe, the capital of Malawi and base of operations.

**D.2. Map**



## SECTION E. Outcome stakeholder consultation process

### E.1. Assessment of stakeholder comments

Stakeholder Comment	Assessment and Response to comment
Dr. Trent Bunderson (Director of Total Landcare, Malawi) who asked about the expected time frame for the project to get certified.	Conor Fox answered that before the project gets certified, an external auditor is expected to come and check if the proposed project reflects the situation on the ground and that the stakeholder consultation meeting was conducted to address some other issues which would be included in the proposal before it is submitted.
Mr Dezious Chikaguza, Project Accountant for Malawi Environmental Endowment Trust (MEET), asked about the cost of a rocket barn.	Mr Godwin Ndhlovu responded that farmers are assisted to obtain a loan of up to MK 98,000 (US\$700) from Malawi Savings Bank and Opportunity International Bank Malawi and the loan is paid back in agreed percentages. Godwin further added that farmers are very excited about this technology because of the following reasons: a) Fuel saving, b) Efficiency in heat transfer which speeds up the tobacco curing process in the barn c) Increase in the quality of tobacco d) Increase in quantity (by 10-15%) of cured tobacco; e) Increased in tobacco prices by \$0.59 per kg when compared to that cured in traditional barns; and f) Reduction of labour as time is saved by feeding tobacco into the barns.
Mr Donald Msutu from Premium Tama Tobacco Ltd asked if there were any plans to produce barns for curing fired tobacco which is cured using smoke.	In response it was mentioned that this process involves a woodfuel KG : tobacco KG ratio that is notably better than flue curing and would not be prioritised at this time.
Mr Steve Makungwa, a Senior lecturer in the Forestry Department at Bunda College (University of Malawi) asked about how the implementation of the project will be spread from the pilot areas to the rest of the country.	In response it was stated that the project is intended to gradually spread in order to reach the whole country with both rocket barns and stoves but it targets the rural areas where firewood is the main source of fuel.
Mr Yamungu Botha from Concern Universal commented that the project should not be limited to the rural area but should be extended	Conor fox answered that the focus of this project for now is on improved woodfuel

to the urban areas because demand for fuel wood is also very high in the urban areas.	efficiency technologies for rural areas.
Mrs Sothini Nyirenda from the Environmental Affairs Department asked about measures put in place to ensure sustainability of the project activities after the project phases out. She further pointed out that many projects have proved to be a failure because of not having proper project exist strategies.	In response to this concern Mr Francis Chagunda from the Promotion of Biomass Energy Conservation Project (ProBEC) GTZ said that the project has started with trainings and the communities are doing the activities on their own and that they have already started seeing the benefits. He therefore concluded that the community will sustain the project. Agness Nthanda from Chandwe Women Group concurred with Francis. In her contribution to this debate, Christa Roth, a freelance consultant in food and fuel, said this is a consultation project which addresses the need with full participation of the community which is different from free handouts. She therefore concurred with the view that the project would easily be sustained.
Barbra Banda from Environmental Affairs Africa asked members of Chandwe Women Group if they had experienced any reduction in fuelwood consumption.	Catherine Kaphale of Chandwe Women Group testified that they have really benefited from the improved cook-stoves through saving of fuel wood thereby reducing both expenditure on and labour for collection of firewood in the bush.
One participant pointed out the need to publicize the adoption of the improved cook-stoves to attract many NGOs to promote the technology and get a higher impact of the stoves.	Related to the same comment some participants also stated that one of the impacts could be a general decrease in the prices of fuel wood if there could be a huge production scale for the stoves.

1. The project will actively promote: (1) the collection of clay from aboveground piles of earth; (2) where not possible, the minimisation of pit depths; and (3) the rapid replacement of clay removed from pits with biodegradable household and agricultural wastes.

2. The project will (a) promote the governmental policy which encourages tobacco farmers to use part of their farm land for planting trees; (b) collaborate with NGOs to further reduce the use of wood fuels; (c) ensure that many people have access to the stoves.

3. The project has will endeavour to avoid implementation delays and has distributed significant numbers to date.

4. The project includes a comprehensive monitoring regime (please see Section D) involving in excess of 70 personnel.

5. The project includes a comprehensive education program whereby all end-users receive training on the usage and benefits (to end-users) of the new technologies (please see Section D).

## **E.2. Stakeholder Feedback Round**

A copy of the Stakeholder Consultation Report has been made available to the stakeholders invited for participation in the Local Stakeholder Consultation.

Stakeholders were encouraged to make comments on the Local Stakeholder Consultation report. All participants of the stakeholder consultation were invited and encouraged to make suggestions or comments via email, phone calls (19) and individual meetings with representatives from academia, civil society and public authorities (8) which have been documented (and are available upon request). Responses received via email (8) phone calls (19) and individual meetings with representatives from academia, civil society and public authorities (8) encouraged the project to reach its objectives as consider the project a good initiative for Malawi. The follow-up process resulted in the project broadening its scope geographically and in terms of technological products being disseminated by the project.

A copy of this Passport and the PDD were made available to the stakeholders invited for participation in the Local Stakeholder Consultation. Stakeholders were encouraged to make comments on this Passport and the PDD via email, individual meetings, phone calls. Digital and hard copies were made available to stakeholders on request. Follow-up on comments are reflected in version 2 of the PDD and in this document.

ANNEX 2 to this Passport shows is a record of feedback solicitation and comments received.

**SECTION F.**

**Outcome Sustainability assessment**

**F.1. 'Do no harm' Assessment**

[See Toolkit 2.4.1 and Toolkit Annex H]

<b>Safeguarding principles</b>	<b>Description of relevance to my project</b>	<b>Assessment of my project risks breaching it (low /medium / high)</b>	<b>Mitigation measure</b>
<b>Human Rights</b>			
1. 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 project is dedicated to reducing deforestation and lethal acute respiratory infections and enhancing the livelihoods of Malawi's rural poor. The project endeavours to empower Malawians through these measures.	Low	The project embraces universal human rights and will be sensitive to any condition changes related to the Project that might put any Human Rights at risk.
2. The project does not involve and is not complicit in involuntary resettlement.	The project does not involve and is not complicit in involuntary resettlement in any way.	None.	None.
3. The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage.	The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage in any way.	None.	None.
<b>Labour Standards</b>			
4. 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 project embraces the Constitution of Malawi which enshrines these rights.	None.	None.
5. The project does not involve and is not complicit in any form of forced or compulsory labour.	The project does not involve and is not complicit in any form of forced or compulsory labour in any way.	None.	None.
6. The project does not employ and is not complicit in any form of child labour.	It is project policy to check the identity of all contractors to ensure they are over 18.	None.	None.
7. The project does not involve and is not complicit in any form of discrimination based on gender,	The project currently employs both male and female staff 3 female administrative / management staff, 9 field management staff.	Low	The project will continue to be sensitive to this concern.

<b>Environmental Protection</b>			
9. The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle. This principle can be defined as "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."	The project activity is dedicated to mitigating harm to human health and harm to the environment.	Low.	The project will continue to be sensitive to this principle.
10. 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) recognised as protected by traditional local communities	The project is dedicated to the preservation of critical natural habitats.	Low.	The project will continue to be sensitive to this principle.
<b>Anti-Corruption</b>			
11. The project does not involve and is not complicit in corruption.	The project embraces the Malawian National Anti-corruption strategy.	Low	It is project policy to seek a minimum of 3 quotations for purchases over MK50,000 (approx. US\$357).
<b>Additional relevant critical issues for my project type</b>	<b>Description of relevance to my project</b>	<b>Assessment of my project risks breaching it (low/medium/high)</b>	<b>Mitigation measure</b>
<b>Improved distributed heating and cooking devices (e.g. cook-stoves).</b>	The project involves a large amount of small, distributed heating, cooking or electricity generation devices.	Low.	Staff have been trained on climate change concepts / emissions trading. An educational pamphlet on climate change / emissions trading is being disseminated in rural areas among customers.

## F.2. Sustainable Development matrix

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Final 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 <a href="http://www.undp.or/mdg">www.undp.or/mdg</a> and <a href="http://www.mdgmonitor.org">www.mdgmonitor.org</a>  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		MDG 4 & MDG 6 (expected reduction in Acute Respiratory Infections among children and women)	Smoke - Reduced RSPM, TSPM, CO emissions.	+
Water quality and quantity		MDG 7	Soil erosion / river siltation - mitigated due to reduction in tree-felling.	+
Soil condition	The project could actively promote: (1) the collection of clay from above-ground piles of earth; (2) where not possible, the minimisation of pit depths; and (3) the rapid replacement of clay removed from pits with biodegradable household and agricultural wastes.	MDG 1 & MDG 7 (expected reduction in soil erosion reduces socio-economic vulnerability and promotes environmental sustainability)	Soil quality at a community level - Soil condition enhanced due to reduced soil erosion.	+
Other pollutants	N/A – No other pollutants – Please see ‘Justification’ below.	N/A – No other pollutants	N/A – No other pollutants	0
Biodiversity		MDG 7	Natural habitat - Alteration and destruction of natural habitat mitigated via reduced tree-felling/destruction for woodfuel.  The project could actively promote the governmental	+

			<p>policy which encourages tobacco farmers to use part of their farm land for planting trees. The project could actively collaborate with other NGOs to further reduce the use of wood fuels.</p>	
Quality of employment		MDG 3 & 6	<p>Employment conditions – Project staff covered by health insurance from MASM.</p> <p>Staff have been trained on climate change concepts / emissions trading.</p>	+
Livelihood of the poor		MDG 1	<p>Poverty alleviation - improved livelihood resilience through reduced household expense (woodfuel purchases). The project also has the potential to improve food security through improving kitchen fuel security.</p>	+
Access to affordable and clean energy services		MDG 1 & MDG 7	<p>Access to improved technologies - The project's geographically broad dissemination plan will improve access to locally produced affordable technologies that significantly reduce the use of woodfuel</p>	+

			(purchased &/or gathered) for cooking & curing.	
Human and institutional capacity			Skills and education	0
Quantitative employment and income generation		MDG 1 & MDG 3	Income generation opportunities – bringing new sustainable income generation opportunities to villagers, particularly women.	+
Balance of payments and investment		MDG 1 and MDG 8	DFI – Project investing foreign private funds in multiple regions of Malawi and in improved technologies.	+
Technology transfer and technological self-reliance		MDG 1	Appropriate technology transfer e.g. south-south, rural-rural transfer - Project facilitates transfer and adoption of appropriate “made in Malawi” technologies.  Technologies do not involve exotic parts or tools and promote self-reliance.	+

**Justification choices, data source and provision of references**

Air quality	<p>A healthy population is not only essential but also a pre-requisite for economic growth and development.... Though Government is making efforts to bring about improved health, it faces a number of challenges... These include inadequate health personnel, prevalence of diseases such as HIV and AIDS, tuberculosis, malaria and <b>acute respiratory infections</b>, and migration of health personnel to other countries... The long-term goal is to improve health of the population at all levels in a sustainable manner.</p> <p>Data source: 5.3.1 Sub theme One – Health and Population, Malawi Economic Growth and Development Strategy “From Poverty to Prosperity 2006-2011”,</p>
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	Government of Malawi, 2005.
Water quality and quantity	<p>The reduction of river siltation and enhancement of river flows, particularly on the River Shire, is a priority activity as identified In Malawi’s National Adaptation Programme of Action (NAPA) for addressing the adverse impacts of climate change. River siltation, as noted in the NAPA, is caused by poor and unsustainable agricultural practices and deforestation. If the project can reverse trends in unsustainable agricultural practices and deforestation the causes of river siltation can be mitigated, which has been prioritised by Malawi in its NAPA.</p> <p>NAPA, Ministry of Mines, Natural Resources and Environment, EAD, 2006.</p>
Soil condition	<p>The NAPA also notes that extensive land use, including the wanton cutting down of trees has resulted in severe land degradation and soil erosion. The reduction of fuel-wood demand can lessen such extensive land use and can redress problems associated with soil erosion.</p>
Other pollutants	<p>Toolkit Annex I, Table I-2 lists: level of noise/ light; frequency of noise/light; and time occurrence as possible parameters. These are not applicable as production and installation are non-mechanized and do not involve artificial light.</p>
Biodiversity	<p>Services provided by forest reserves include soil conservation, mitigation of erosion by wind and water, regulation of sediment run-off thereby improving fisheries, recreation and maintenance of <b>biodiversity</b>.... resource pressure and encroachment on (forest reserves) is increasing... (4.9)..National demand for forest products is much greater than supply (1.2)... Influence wood energy supply and demand (4. National Forestry Programme Strategies and Priority Actions).</p> <p>Malawi’s National Forestry Programme, Priorities for Improving Forestry and Livelihoods, Government of Malawi, 2001.</p>
Quality of employment	<p>Under Theme One of the MGDS “Sustainable Economic Growth”, sub-theme 5, Economic Empowerment the long-term goal is to increase employment and income and the medium-term outcome is to increase employment and income from on and off farm activities. Although the focus may be on quantitative employment generation the project is also contributing to off-farm employment. The quality of such employment is enhanced with improved working conditions such as provision of health insurance for project staff by the project.</p> <p>5.1 Sustainable Economic Growth, Malawi Economic Growth and Development Strategy “From Poverty to Prosperity 2006-2011”, Government of Malawi.</p> <p>GS Toolkit Annex I, Table I-3 stipulates: “Quality of employment refers to changes compared to the baseline in: Labour conditions, such as job-related health and safety Qualitative value of employment, such as whether the jobs resulting from the project activity are highly or poorly qualified, temporary or permanent.” Project staff are covered by health insurance from MASM. Staff have been trained on climate change concepts / emissions trading, geographic information systems, database management, business and management. Seminars from outside experts are also facilitated to enhance skills and awareness. As detailed in Sustainability Monitoring Plan, item 8 (Human and Institutional capacity), women-specific training is monitored.</p>
Livelihood of the poor	<p>Malawi’s poverty reduction strategy (MPRS) identified the environment as a cross-cutting issue that is crucial and should be mainstreamed. Part of MPRS is to increase access to affordable and sustainable rural energy to reduce pressure on woodfuel through encouraging the use of woodstoves in different areas (Sub-goal 1.2.3.).</p> <p>MPRS, Government of Malawi, 2002</p>

Access to affordable and clean energy services	<p>Improving energy access and security in rural areas was identified as a priority and urgent need in the NAPA. Improved stoves were specifically identified as an example of how energy access and security could be improved.</p> <p>National Adaptation Programme of Action (NAPA), Government of Malawi, 2006</p>
Human and institutional capacity	<p>5.3.3 Sub Theme Three: Gender - The long-term goal is to mainstream gender in the national development process to enhance equal participation of both sexes for sustainable development.</p> <p>Malawi Growth and Development Strategy, Government of Malawi, 2005.</p>
Quantitative employment and income generation	<p>5.1.5 Sub Theme Five: Economic Empowerment - Increase in employment and income. The project will generate employment in rural areas in promotion of improved technologies.</p> <p>Malawi Economic Growth and Development Strategy, Government of Malawi, 2005</p> <p>As detailed in Sustainability Monitoring Plan, item 9 (<i>Quantitative employment and income generation</i>), the project monitors direct employee numbers and numbers of producers /retailers and specialised builders/metal-workers/ carpenters. As of the date of version 3 of this Passport, people getting permanent employment stands at 31 and people self employed/getting temporary employment 832. All salary levels are same as or above market average. The minimum wage in Malawi is reported to be well below the cost of living<sup>8</sup>. All direct staff are paid many times more that the minimum wage (which was MK3,000 per month or approximately \$20 per month in February 2010). In 2005, it was estimated that about 13% of the labour force in Malawi worked in the formal sector and about 90% of women work in agriculture<sup>9</sup>. The project has already generated many “off-farm” rural employment opportunities, particularly for women. With greater expansion, more opportunities can be generated for employment and for micro-enterprise. The approach of the project is to create an enabling environment for such enterprise to prosper around increased dissemination and proper use of improved energy-efficient technologies.</p>
Balance of payments and investment	<p>Under sub-theme 2 of Malawi’s growth and development strategy to create an enabling environment for private sector led growth the long-term goal is to increase private sector, foreign and domestic investment. The project will facilitate private sector investment in improved technologies.</p> <p>Malawi Economic Growth and Development Strategy, Government of Malawi, 2005.</p>
Technology transfer and technological self-reliance	<p>In MPRS, technology-constrained small-scale farmers are identified as among the most vulnerable individuals and households (4.3). Facilitating appropriate technological transfer can strengthen the most vulnerable.</p> <p>Malawi Poverty Reduction Strategy, Government of Malawi, 2002.</p>

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<sup>8</sup> [http://www.bnltimes.com/index.php?option=com\\_content&task=view&id=2356&Itemid=32](http://www.bnltimes.com/index.php?option=com_content&task=view&id=2356&Itemid=32)

<sup>9</sup> <http://www.wageindicator.org/main/wageindicatorcountries/country-report-malawi>

## SECTION G. Sustainability Monitoring Plan

[See Toolkit 2.4.3 and Toolkit Annex I]

*Copy Table for each indicator*

No	1
Indicator	<b>Air Quality</b>
Mitigation measure	
<i>Repeat for each parameter</i>	
Chosen parameter	Indoor Smoke linked to acute respiratory infections.
Current situation of parameter	Prevalent indoor smoke from use of traditional 3-stone fires indoors for cooking.
Estimation of baseline situation of parameter	Prevalent indoor smoke from use of traditional 3-stone fires indoors for cooking.
Future target for parameter	Reduced indoor smoke (RSPM, TSPM, CO emissions) due to reduced emissions from improved cooking stoves.
Way of monitoring How	Kitchen Surveys to establish proper usage of improved cooking stoves.
	When Yearly
	By Who The Project
	How Monitoring of Stove sales records and Barn Total Build Records to establish dissemination levels.
	When Daily
	By Who The Project
	How Kitchen Tests and Barn Surveys to establish proper usage and condition of devices - estimated through interviews and observations
	When Every 2 years
	By Who The Project

No	2
Indicator	<b>Water quantity and quality</b>
Mitigation measure	
<i>Repeat for each parameter</i>	
Chosen parameter	Soil erosion and river siltation caused by deforestation.
Current situation of parameter	Soil erosion and river siltation are known problems in Malawi and their reduction in soil erosion and river siltation have been prioritised by Malawi in its National Adaptation Programme of Action with deforestation being a known cause.
Estimation of baseline situation of parameter	Soil erosion and river siltation are known problems in Malawi and their reduction in soil erosion and river siltation have been prioritised by Malawi in its National Adaptation Programme of Action with deforestation being a known cause.
Future target for parameter	Reduced deforestation due to reduced woodfuel use for cooking and curing in rural areas.
Way of monitoring How	Kitchen Surveys to establish proper usage of improved cooking stoves and wood fuel quantity usage.
	When Yearly
	By Who The Project
	How Barn Tests over a 2-3 month period and Kitchen Tests to measure reduced consumption of fuel wood
	When Every 2 years

By Who	The Project
How	Monitoring of Stove sales records and Barn Total Build Records to establish dissemination levels.
When	Daily
By Who	The Project

No	3
Indicator	<b>Soil condition</b>
Mitigation measure	<p>The project will promote:</p> <p>(1) the collection of clay from above-ground piles of earth;  (2) where not possible, the minimisation of pit depths;  (3) the rapid replacement of clay removed from pits with biodegradable household and agricultural wastes; and  (4) the governmental policy which encourages tobacco farmers to use part of their farm land for planting trees</p> <p>The project will collaborate with other NGOs like the one which promotes briquettes as an alternative to wood fuels in order to further reduce the use of wood fuels</p>
<i>Repeat for each parameter</i>	
Chosen parameter	Soil erosion due to deforestation
Current situation of parameter	Soil erosion and river siltation are known problems in Malawi and their reduction in soil erosion and river siltation have been prioritised by Malawi in its National Adaptation Programme of Action with deforestation being a known cause.
Estimation of baseline situation of parameter	Soil erosion and river siltation are known problems in Malawi and their reduction in soil erosion and river siltation have been prioritised by Malawi in its National Adaptation Programme of Action with deforestation being a known cause.
Future target for parameter	Reduced deforestation due to reduced woodfuel use for cooking and curing in rural areas.
Way of monitoring How	Kitchen Surveys to establish proper usage of improved cooking stoves and wood fuel quantity usage.
When	Yearly
By Who	The Project.
How	Monitoring of Stove sales records and Barn Total Build Records to establish dissemination levels.
When	Daily
By Who	The Project
How	Kitchen Tests and Barn Surveys to establish proper usage and condition of devices - estimated through interviews and observations
When	Every 2 years
By Who	The Project
How	Monitoring of collection of clay from above-ground piles of earth and replacement of clay removed from pits.
When	Every 2 years
By Who	The Project

No	4
Indicator	<b>Biodiversity</b>

Mitigation measure	
<i>Repeat for each parameter</i>	
Chosen parameter	<p>Natural habitat - Alteration and destruction of natural habitat mitigated via reduced tree-felling/destruction for woodfuel.</p> <p>The project could actively promote the governmental policy which encourages tobacco farmers to use part of their farm land for planting trees.</p> <p>The project could actively collaborate with other NGOs in order to further reduce the use of wood fuels.</p>
Current situation of parameter	Soil erosion and river siltation are known problems in Malawi and their reduction in soil erosion and river siltation have been prioritised by Malawi in its National Adaptation Programme of Action with deforestation being a known cause.
Estimation of baseline situation of parameter	Soil erosion and river siltation are known problems in Malawi and their reduction in soil erosion and river siltation have been prioritised by Malawi in its National Adaptation Programme of Action with deforestation being a known cause.
Future target for parameter	Reduced deforestation due to reduced woodfuel use for cooking and curing in rural areas.
Way of monitoring How	Kitchen Surveys to establish proper usage of improved cooking stoves and wood fuel quantity usage.
	When Yearly.
	By Who The Project.
	How Monitoring of Stove sales records and Barn Total Build Records to establish dissemination levels.
	When Daily
	By Who The Project
	How Kitchen Tests and Barn Surveys to establish proper usage and condition of devices - estimated through interviews and observations
	When Every 2 years
	By Who The Project

No	5
Indicator	<b>Quality of employment</b>
Mitigation measure	
<i>Repeat for each parameter</i>	
Chosen parameter	Employment conditions.
Current situation of parameter	<p>Improved working conditions such as provision of health insurance for project staff by the project.</p> <p>Staff are trained on climate change concepts / emissions trading.</p>
Estimation of baseline situation of parameter	Few Malawian workers benefit from: provision of health insurance; and training on climate change concepts / emissions trading.
Future target for parameter	Ongoing provision of health insurance for project staff and training for new staff
Way of monitoring How	<p>Records of health insurance for direct project staff and records of job related and other trainings for direct project staff will be maintained and reviewed through ongoing project management.</p> <p>The project embraces relevant labour laws established in Malawi and</p>

	has adopted an Employee Handbook detailing policies, programs, benefits and complaints/compliance procedures.
When	Every 2 years
By Who	The Project

No	6
Indicator	<b>Livelihood of the Poor</b>
Mitigation measure	
<i>Repeat for each parameter</i>	
Chosen parameter	Poverty Alleviation
Current situation of parameter	Part of Malawi's poverty reduction strategy is to increase access to affordable and sustainable rural energy to reduce pressure on woodfuel through encouraging the use of woodstoves and efficient barns.
Estimation of baseline situation of parameter	The majority of rural Malawian households use inefficient 3-Stone Fires. The majority of Malawian smallholder curing farmers use inefficient traditional barns.
Future target for parameter	Increase access to Improved Stoves and barns.
Way of monitoring How	Kitchen Surveys to establish proper usage of improved cooking stoves
When	Yearly
By Who	The Project
How	Monitoring of Stove sales records and Barn Total Build Records to establish dissemination levels.
When	Daily
By Who	The Project
How	Kitchen Tests and Barn Surveys to establish proper usage, condition of devices estimated through interviews and observations
When	Every 2 years
By Who	The Project
How	Kitchen Surveys to establish how domestic stove users utilised their time saved
When	Every 2 Years
By Who	The Project

No	7
Indicator	<b>Access to Clean and Affordable Energy.</b>
Mitigation measure	
<i>Repeat for each parameter</i>	
Chosen parameter	Improving energy access and security.
Current situation of parameter	National Adaptation Programme of Action (NAPA), Government of Malawi, 2006 specifically identified improved stoves as an example of how energy access and security could be improved.
Estimation of baseline situation of parameter	The majority of rural Malawian households use inefficient 3-Stone Fires. The majority of Malawian smallholder curing farmers use inefficient traditional barns.
Future target for parameter	Increase access to Improved Stoves and Barns.

Way of monitoring How		Kitchen Surveys to establish proper usage of improved cooking stoves..
	When	Yearly
	By Who	The Project
	How	Monitoring of Stove sales records and Barn Total Build Records to establish dissemination levels.
	When	Daily
	By Who	The Project
	How	Kitchen Tests and Barn Surveys to establish proper usage and condition of devices - estimated through interviews and observations
	When	Every 2 years
	By Who	The Project

No		8
Indicator		<b>Human and institutional capacity.</b>
Mitigation measure		
<i>Repeat for each parameter</i>		
Chosen parameter		Empowerment of women
Current situation of parameter		Malawi Growth and Development Strategy, Government of Malawi, 2005 identifies equal participation of both sexes in the national development process as a long-term goal
Estimation of baseline situation of parameter		Share of women in wage employment in the non-agricultural sector estimated to be under 15%. <a href="http://data.un.org/Data.aspx?d=MDG&amp;f=seriesRowID:722">http://data.un.org/Data.aspx?d=MDG&amp;f=seriesRowID:722</a>
Future target for parameter		Increase the number of jobs and positions for women in or as a result of the project
Way of monitoring How		Monitoring of women-specific training and the number of jobs and positions for women in or as a result of the project.
	When	Every 2 years
	By Who	The Project

No		9
Indicator		<b>Quantitative employment and income generation</b>
Mitigation measure		
<i>Repeat for each parameter</i>		
Chosen parameter		Income generation opportunities.
Current situation of parameter		Scarcity of employment in rural areas.
Estimation of baseline situation of parameter		Scarcity of employment in rural areas.
Future target for parameter		The project will generate employment in rural areas in promotion of improved technologies. The project employs project staff directly and indirectly, the producers and retailers of improved Stoves and specialised builders, metal-workers and carpenters of Barns.
Way of monitoring How	How	Monitoring of direct employee numbers and numbers of producers /retailers and specialised builders/metal-workers/ carpenters .
	When	Every 2 years
	By Who	The Project

No	10	
Indicator	<b>Balance of payments and investments</b>	
Mitigation measure		
<i>Repeat for each parameter</i>		
Chosen parameter	Direct Investment	
Current situation of parameter	Malawi Growth and Development Strategy, Government of Malawi, 2005 identifies as a long-term goal increasing private sector, foreign and domestic investment.	
Estimation of baseline situation of parameter	Malawi net FDI inflow estimated at US\$60,447,137 for 2009 by World Bank ( <a href="http://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?cid=GPD_53">http://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?cid=GPD_53</a> )	
Future target for parameter	Increase investment in dissemination of the improved devices.	
Way of monitoring	How	Monitoring of VER sales and Stove sales records /Barn Total Build Records to establish dissemination levels.
	When	Every 2 years
	By Who	The Project

No	11	
Indicator	<b>Technology transfer and technological self-reliance.</b>	
Mitigation measure		
<i>Repeat for each parameter</i>		
Chosen parameter	Appropriate technology transfer.	
Current situation of parameter	No project activity of this type and scope is currently operational in Malawi	
Estimation of baseline situation of parameter	No project activity of this type and scope is currently operational in Malawi	
Future target for parameter	Increase access to Improved Stoves and Barns	
Way of monitoring	How	Monitoring of Stove sales records /Barn Total Build Records to establish dissemination levels.
	When	Every 2 years
	By Who	The Project

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**Gold Standard Annexes to Toolkit Version 2.1 effective 1 July 2009 – use together with Versions 2.1 of the Gold Standard Requirements and Toolkit**

Developed by Ecofys, TÜV-SÜD and FIELD

## **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**

**[See Toolkit 2.3]**

Not applicable.

<b>H.2.                    Conservativeness</b>
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**[See Toolkit 2.2]**

Not applicable.

**Hestian Innovation Ltd**

**Date 15 September, 2009**

**Project reference: Gold Standard Applicant Project 613**

**To: Gold Standard Foundation**

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

Hestian Innovation Ltd

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

John O'Connor (*Authorised Representative*):

I hereby declare that I am duly and fully authorised by the project owner of the above-referenced project, acting on behalf of all project participants, to make the following representations on Project Proponent's behalf:

#### **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:** John O'Connor

**Title:** Director

**On behalf of:** Hestian Innovation Ltd

## ANNEX 2 - Stakeholder Feedback Round 2

Participant	Organization	Email Sent	Follow up calls	Email resent	Feedback
Dezious Chikaguza	MEET	17-Sep	13-Oct		
Jeremiah Madise	NASFAM	17-Sep	13-Oct	13-Oct	
Godfrey Banda	ECOYA	17-Sep	13-Oct		
G. Msomaliza	Agriculture Youth Network	17-Sep	13-Oct		
Vera Mtukule	CCODE	17-Sep			
Steve makungwa	Bunda College of agriculture	17-Sep			
Ronald Ngwira	Alliance One	17-Sep			
Yamungu Botha	Concern Universal	17-Sep			
Alex Mphepo	NRT	17-Sep	13-Oct		
Maurice Mafeni	Cara Malawi	17-Sep			
Elizabeth Banda	Clioma Limited	17-Sep			
Romanzie Nkhata	Min. Agriculture	17-Sep	13-Oct		
Hetherwick Nkhuzenje	Concern Universal	17-Sep			
T.K Gondwe	Forum for Advanced Community educators	17-Sep	13-Oct		
Vincent Mvula	Tobacco farming	17-Sep	13-Oct	13-Oct	
Kad Kapachika Phiri	Africa Leaf Tobacco	17-Sep	13-Oct	13-Oct	
MP Majawa	Limbe Leaf Tobacco	17-Sep	13-Oct	13-Oct	
Amulike Msukwa	DeTAS	17-Sep	13-Oct	13-Oct	
Jacob Mderu Ackim	Malawi Savings Bank	17-Sep	13-Oct	13-Oct	
Custom Nyirenda	Department of Forestry	17-Sep	13-Oct	13-Oct	
Nicholus Evans		17-Sep			
T. Chidzanja	Limbe Leaf Tobacco	17-Sep			
Christa Roth	Food & Fuel	17-Sep			
Kufasi Shella	Land Resource Conservation Department	17-Sep	13-Oct	13-Oct	
Shamiso Najira	Environmental affairs Department	17-Sep	13-Oct		Please see email from EAD (already sent). Also suggested expanding project to include institutional stoves and urban stoves.
D msutu	Premium TAMA Tobacco	17-Sep	13-Oct	13-Oct	
Barbara Banda	Environment Africa	17-Sep			Well done, keep up the excellent work
Vincent Gondwe	ProBEC GTZ	17-Sep			Suggested expanding project to include charcoal.

