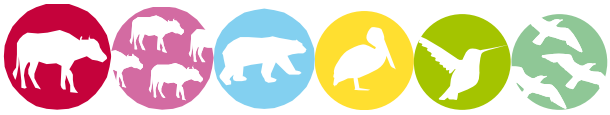
ANNEX R – PASSPORT TEMPLATE

CONTENTS



SECTION A. Project Title

[See Toolkit 1.6]

Title: African Biogas Carbon Programme (ABC) –Uganda – VPA003

Date: 11/05/2015

Version no.: 1.0

SECTION B. Project description

[See Toolkit 1.6]

Estimated project start date (VPA): 15/11/2009 (the date of the first Sales Agreement signed for the first digester to be included under this VPA)

In many developing countries the dependency on firewood and charcoal as a source of energy is very high[1], with around 3 billion people combusting solid fuels on open fires to meet their cooking and heating needs[2]. As a result, indoor air pollution is one of the ten major threats to health globally, causing almost 2 million deaths annually due to solid fuel use[3]. The burning of firewood that is illegally collected and the production of charcoal also contributes to the emission of greenhouse gases and deforestation or forest degradation.

Biogas digesters allow the production of sustainable fuel from organic waste through anaerobic digestion. The biogas can be used as a clean source of cooking fuel (Figure 3) while the slurry from the digester is a very good fertiliser (Figure 4).

The *African Biogas Carbon Programme (ABC)* will operate following the rules and regulations of the Gold Standard as a Programme of Activities (PoA). Kenya is the host country for VPA1 of the PoA. The programme is developed as part of the African Biogas Partnership (ABPP) with support from Hivos and SNV. The programme aims to install biogas systems with stoves in households, small and medium enterprises (SMEs) and communities that are currently using non-renewable biomass and fossil fuels as their main source of cooking fuel. The biogas systems are fed with manure, which is anaerobically digested to produce renewable biogas. The biogas produced will replace the combustion of non-renewable biomass and fossil fuels, thereby reducing carbon dioxide (CO_2) emissions, and also reduce methane (CH_4) emissions by diverting manure that would otherwise decompose in open pits, emitting methane.

The emission reductions achieved through the PoA will generate carbon credits, the revenue from which will be used to subsidise the biodigesters and biogas stoves, making them more affordable for use in households.

The diagrams below illustrate how a biogas digester looks in practice.

[1] *Food and Agriculture Organization: Forests and Energy, Rome: FAO. (2008)*
[2] *World Health Organization: Indoor air pollution and health, Fact sheet No. 292: WHO (2011)*
[3] *World Health Organization: Indoor air pollution and health, Fact sheet No. 292: WHO (2011)*

Figure 1: Fixed-dome biogas digester built into the ground

Figure 2: Biogas outlet from which biogas is fed into the household, ready for use

Figure 3: Biogas used for cooking

Figure 4: Slurry outlet. Slurry can be applied to agricultural land as a fertilizer.

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
	☐	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☑

	☐

C.2. Host Country

[See Toolkit 1.2.b]

Uganda

C.3. Project Type

[See Toolkit 1.2.c and Annex C]

Please tick where applicable:

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	☑	☐
Does your project activity classify as an End-use Energy Efficiency Improvement project?	☐	☑
Does your project activity classify as waste handling and disposal project?	☑	☐

Please justify the eligibility of your project activity:

According to Gold Standard v2.2 rules, the eligibility of the project activity is defined by a number of aspects. The justification of the project eligibility criteria are discussed as follows:

Scale of the project activity: The VPAs within the PoA remain within the CDM small-scale thresholds. The PoA applies the Gold Standard's methodology '*Technologies and Practices to Displace Decentralized Thermal Energy Consumption'* (version 01) (11/04/2011). The SSC-VPA's aggregated power capacity remains below 45 MW_{th} throughout the crediting period. For activities falling under Type III, each VPA will achieve below 60,000 tCO_2e in emission reductions annually.

Host country or state: The third VPA is located in Uganda. Uganda is listed as a non-Annex 1 country and is not a country with a cap on greenhouse gas emissions.

Type of project activity: The project is a retroactive project activity. The proposed project activity falls both under renewable energy project and waste handling and disposal category. Additionally, according to the Guidance on Project Type Eligibility from the Gold Standard revised Annex C rules, it classifies under the improved distributed heating and cooking devices and distributed micro-scale electricity generation units.

Greenhouse gases: The project activity involves reduction of methane (CH_4) and carbon dioxide (CO_2) gases. CH_4 and CO_2 gases are included in the project boundary and this is eligible under the Gold

Standard.

Official Development Assistance: According to the Gold Standard's rules, a project is not eligible under the Gold Standard registration if it receives ODA under the condition that credits coming out of the project are transferred, directly or indirectly, to the donor country requirements. The first CPA has received support from the Directorate General for International Cooperation (DGIS) under the Netherlands Ministry of Foreign Affairs provides public funding. The SSC-VPA is being supported by DGIS through two Dutch development NGOs, the Humanist Institute for Cooperation with Developing Countries (Hivos) and the Netherlands Development Organisation (SNV). There has been no diversion of Official Development Assistance (ODA) as demonstrated in the ODA Declaration.

Other certification schemes: The project will not claim any other certificate and thus there is no double counting that would arise from the issuance of Gold Standard carbon credits.

Carbon rights transfer from end users: The end user of each biogas digester will agreed to transfer all rights to any carbon credits to the VPA Implementer as part of the Sales Agreement. The CME will be the focal point with the Gold Standard Secretariat and will receive the VERs generated. Whilst the end-users transfer the rights to the VERs to the VPA Implementer, a separate agreement is in place between the VPA Implementer and the CME transferring the rights to VERs to the CME.

Pre Announcement	**Yes**	**No**
Was your project previously announced?	☐	☑
Explain your statement on pre announcement The VPA was not previously announced to be going ahead without the revenues from carbon credits. On the contrary, income from carbon credits are essential to the successful implementation of the programme in order to make biogas digesters affordable to the target group.		

C.4. Greenhouse gas

[See Toolkit 1.2.d]

Greenhouse Gas	
Carbon dioxide	☑
Methane	☑

Nitrous oxide	☐

C.5. Project Registration Type

[See Toolkit 1.2.f]

Project Registration Type	
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)
	☑	☐	☐

If Retroactive, please indicate Start Date of project activity dd/mm/yyyy:_15/11/2009_____

SECTION D. Unique project identification

D.1. GPS-coordinates of project location

[See Toolkit 1.6]

	Coordinates
Latitude	1 00 N
Longitude	32 00 E

☐

Explain given coordinates

This VPA will disseminate biogas systems over the entire territory of Uganda. The primary means to uniquely identify the location of activities (biogas digesters) under the VPA is by means of buyer information collected through Sales Agreements. This will include serial number, customer name, address, date of sale, date of commissioning, name of VPA implementer, biogas model and size, and where possible also GPS coordinates.

The above coordinates include rounded latitude and longitude figures for the centroid or center point of a country expressed in degrees and minutes; it is based on the locations provided in the Geographic Names Server (GNS), maintained by the National Geospatial-Intelligence Agency on behalf of the US Board on Geographic Names.[4]

D.2. Map

[See Toolkit 1.6]

Figure 5: Location of Biogas Solutions Uganda Ltd. and border of Uganda

SECTION E. Outcome stakeholder consultation process

[4] Available from https://www.cia.gov/library/publications/the-world-factbook/fields/2011.html

E.1. Assessment of stakeholder comments

[See Annex J]

[See Local Stakeholder Consultation Report B.5 and insert table from "C.3.iii Assessment of all comments". Insert a summary of alterations based on comments]

A Local Stakeholder Consultation was carried out on 14/12/2011 in Kampala (see local stakeholder consultation report for more details). A summary of the comments received during the stakeholder consultation is provided below. It was not necessary to make alternations to project design following feedback from stakeholders.

Stakeholder comment	Was comment taken into account (Yes/ No)?	Explanation (Why? How?)
It is important to ensure that the farmers that own the biogas digesters are engaged so as to have a proper appreciation of the programme beforehand.	Yes	The comment was already taken into account at the design stage of the Programme. Hivos will be working closely with the project owners such as UBP to ensure awareness of the programme and monitoring requirements is built at the grassroots.
The bio-slurry produced from the biogas digesters could become a pollutant if it is not utilized properly.	Yes	Under UBP farmers are sensitised about the value of bio-slurry as a fertiliser with an increased demand for the bio-slurry. Therefore this risk would be mitigated through effective quality control during construction and training in bio-slurry management and utilisation during operation.
How do you ensure the households with a biogas digester unit benefits from the Programme. There is not direct	Yes - clarification	The carbon credits from the programme will be utilised to substitute the current subsidies by ABPP or reduce further the

	benefit from the programme at household level.		cost of installation of biogas digesters and contribute to continuous maintenance to ensure a long life of the technology. Hence the biogas digester owner benefits.
	The Programme would be a good tool to drive up sustainability concerns under the Uganda Domestic Biogas Programme.	Not necessary	No action required.
	The carbon credits resulting from the Programme provide no incentive to the investing households.	Yes	The carbon credits will be used to reduce the upfront cost of the biogas digester, and to provide maintenance services throughout the lifetime of the digester. These are both incentives to the investing household.
	The initial cost of the digester is still relatively high.	No	The price of the digesters is not something that could be addressed directly by the PoA/CME. The price, which is already subsidised, is determined by market forces.
	The programme is still known by only a small number of people and there is still a relatively low appreciation of the benefits of biogas by the general public.	Yes	UBP will be working to sensitise people in the rural communities about the benefits of biogas and how they indirectly benefit from the carbon finance resulting from their biogas installations.
	The benefits of the programme that is the CERs, are not easily realised. It takes a long time and it is still expensive.	No	Comment could not be directly addressed by the programme as it relates to CDM modalities. Explained the role that grant funding/ ODA has played in substantially contributing to initial costs of this particular

		programme.
No compensation mechanism developed as yet	No	The biogas digesters are small in size and will be constructed within the premises of the households and there won't be any need for compensation.
The problem of low mason payments not discussed.	No	Concern brought to the attention of the project owners but cannot be directly addressed by the PoA. This payment is somewhat determined by the market and UBP is providing as much of a subsidy as is possible.
Funding required for farmers to enable them to maintain the systems and to ensure they remain in operation.	Yes	The comment has already been considered at the Programme design stage. Some of the proceeds from the sale of CERs will benefit biogas digester periodic maintenance activities.

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.

[See Toolkit 2.11]

A Stakeholder Feedback Round will be organized in 2015, an exact date will be provided together with a copy of the letter sent to stakeholders soliciting their feedback as part of the Stakeholder Feedback Round at a later stage. Stakeholders will be invited to review the LSC Report, PDDs and Passports for the PoA and VPA.

E. 3. Discussion on continuous input / grievance mechanism

[See Annex W]

Discuss the Continuous input / grievance mechanism expression method and details, as discussed with local stakeholders.

	Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)	Justification
Continuous Input / Grievance Expression Process Book	A Process Book will be made available at the following location Biogas Solutions Uganda Ltd Plot 36 Luthuli Rise, Bugolobi, P.O.Box 8339, Kampala, Uganda	Outcome of stakeholder consultation (see above). It is important to provide access to a physical log book.
Telephone access	Stakeholders will be able to call to provide input on the project's performance at any time. The number available is: +256 800399236	Outcome of stakeholder consultation. The provided number is toll-free. Mobile phone use is the primary means of communication nationwide, especially since landlines are expensive.
Internet/email access	Stakeholders will be able to provide continuous input/feedback via the following email address: Website: http://www.biogassolutions.co.ug/ Email: info@biogassolutions.co.ug	Outcome of stakeholder consultation.
Nominated Independent Mediator (optional)	Not included	Stakeholders did not discuss this as being necessary. Given that all three other methods of providing feedback are provided, it was not deemed necessary to also include a Nominated Independent Mediator.

All issues identified during the crediting period through any of the Methods shall have a mitigation measure in place. The identified issue should be discussed in the revised Passport and the corresponding mitigation measure should be added to sustainability monitoring plan in section G.

SECTION F. Outcome Sustainability assessment

F.1. 'Do no harm' Assessment

[See Toolkit 2.4.1 and Annex H]

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it	Mitigation measure
Human Rights			
1. Human rights abuses	The project respects human rights, including dignity, cultural property and uniqueness of indigenous people. Participation is completely voluntary and the project respects personal freedom and liberty. The project is not complicit in Human Rights abuses. The project respects internationally proclaimed human rights. **Host country commitment to UN conventions on Human Rights:** International Covenant on Economic, Social and Cultural Rights New York, 16 December 1966 Uganda Accession (a), 21 January 1987.	Low	N/A
2. Involuntary resettlement	The project does not involve and is not complicit in involuntary resettlement. The domestic biogas units of UBP will be small in size and are constructed within people's homesteads. The project will therefore not involve any resettlement.	Low	N/A

3. Damage to cultural heritage	The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage. Cultural heritage will not be altered by the project since the biogas units will be constructed within the household compounds on a voluntary basis and no damage to cultural or religious heritage is expected.	Low	N/A
Labour Standards			
4. Freedom of association etc.	The project respects the employees' freedom of association, their right to collective bargaining and is not complicit in restrictions of these freedoms and rights **Host country commitment to international conventions on labour standards and child Rights:** Convention on the Rights of the Child, New York, 20 November 1989. Date of signature 22 July 1985. Uganda is a member of the International Labour Organisation.	Low	N/A
5. Absence of compulsory labour	The project does not involve and is not complicit in any form of forced or compulsory labour. UBP is not be complicit in any form of forced labour. All employees offering services do so on a voluntary basis in exchange for remuneration. They are free to quit at any time. **Host country commitment to international conventions on labour standards and child Rights:** Convention on the Rights of the Child, New York, 20 November 1989. Date	Low	N/A

	of ratified treaty: 22 July 1985. Uganda is member of the International Labour Organisation.		
6. Child labour	The project does not employ and is not complicit in any form of child labour. **Host country commitment to international conventions on labour standards and child Rights:** Convention on the Rights of the Child, New York, 20 November 1989. Date of ratified treaty: 22 July 1985. Uganda is member of the International Labour Organisation.	Low	N/A
7. Discrimination	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. Provided they meet the basic requirements, any biogas implementer can join the programme irrespective of their gender, race, religion or sexual orientation.	Low	N/A
8. Healthy work environment	The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments. UBP will involve installation of small domestic biogas units. The biogas systems require relatively simple construction and tools, with no need for scaffolding. During training courses for masons and supervisors, safe construction of a biogas unit will be demonstrated.	Low	N/A

Environmental Protection			
9. Environment	The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the precautionary principle. The project does not involve any invasive species, chemicals dangerous to the environment or hazardous waste. The biogas units will utilise animal/ human excreta and food wastes. The resulting slurry can be used as a fertiliser and has no negative impact on the environment but rather enhances it.	Low	N/A
10. Degradation of natural habitats	The project does not involve and is not complicit in significant conversion or degradation of critical natural habitats, including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value, or (d) recognized as protected by traditional local communities. In fact, the project reduces deforestation and contributes to the protection of forests, water and soil resources. The biogas will be a renewable and clean energy source.	Low	N/A
Anti-corruption			
11. Corruption	The project does not involve and is not complicit in corruption. Financial management of the UBP is carried out in a transparent manner, and involves regular financial reporting to donors that have enables the set-up of the	Low	N/A

	programme. .		

Additional relevant critical issues for my project type	Description of relevance to my project	Assessment of relevance to my project	Mitigation measure
No other additional critical issues were identified			

F.2. Sustainable Development matrix

[See Toolkit 2.4.2 and Annex I]

Insert table as in section D3 from your Stakeholder Consultation report (Sustainable Development matrix).

Indicator	Mitigation measure	Relevance to achieving MDG	Chosen parameter and explanation	Preliminary score
Air quality	N/A	The project will lead to the reduction in indoor air pollution caused by the combustion of fuelwood and charcoal, through their substitution with biogas. The health situation especially for women and children will therefore be improved significantly (MDG 5&7).	Parameter: Perceived improvement in health by the user (incidence of eye problems and respiratory illness) Explanation: Less indoor smoke will reduce incidence of respiratory health problems, especially for women and children who spend more time near the hearth.	+
Water quality and quantity	N/A	Whilst the operation of a biogas unit requires a certain amount of water, which will be fed into the digester together with cow dung (ratio 1:1), the project will contribute to the protection of water resources through reduced deforestation (MDG 7).	N/A – neutral score	0

Soil condition	N/A	The substitution of fuel wood with biogas will indirectly contribute to a reduction in soil erosion by reducing deforestation. The slurry generated from biogas units can be used as high value fertiliser (MDG 7).	Parameter: Percentage of biogas users who use slurry as a fertilizer. Explanation: Application of slurry to soil increases the quality of soil.	+
Other pollutants	N/A	N/A	N/A – neutral score	0
Biodiversity	N/A	The project will indirectly contribute to the enhancement of biodiversity and nature conservation through reduction of pressure on natural habitats in Kenya resulting from deforestation by substitution of wood fuels with biogas (MDG 7). However, the impact on biodiversity is indirect and will therefore not be monitored	N/A – neutral score	0
Quality of employment	N/A	The project will provide vocational training programs to employees, helping them to acquire new technical skills and knowledge which can help to reduce poverty (MDG 1).	Parameter: number of masons attending training programmes Explanation: Those attending the trainings will acquire new technical skills and knowledge.	+
Livelihood of the poor	N/A	Households will have a lower annual expenditure due to a reduced need to purchase non-renewable biomass and fossil fuels used for cooking and artificial fertilisers (MDG 1).	Parameter: Percentage of users reporting changes in expenditure on fuel for cooking Explanation: the biogas produced from the digesters is used as a source of cooking fuel and will reduce the need to purchase	+

			alternative fuels.	
Access to affordable and clean energy services	N/A	With the construction of biogas units, an affordable and clean energy source will be available to farmers from a cost effective technology subsidised by carbon finance. Reduced dependency on non-renewable biomass and fossil fuels (MDG 1).	Parameter: Number of biogas units installed. Explanation: The number of biogas units installed will indicate that the project has successfully promoted access to affordable and clean energy services.	+
Human and institutional capacity	N/A	Biogas raises awareness on clean energy and the harms of deforestation and environmental pollution (MDG 7). However, the project is not otherwise considered to have a significant impact on human and institutional capacity	N/A – neutral score	0
Quantitative employment and income generation	N/A	Due to the high number of biogas units, the impact on local employment will be significant. The employment will contribute improved livelihoods (MDG 1).	Parameter: Number of employees in the project Explanation: indicates income generation benefits of the project	+
Balance of payments and investment	N/A	Micro credit and upfront financing with assistance of local banks and saving credit co-operations is possible (MDG 1).	N/A – neutral score	0
Technology transfer and technological self-reliance	N/A	The wide range of biogas units to be included under the domestic biogas PoA have all been adapted to Kenya. The project therefore promotes technology transfer, which contributes to and enhances the local knowledge base. With sufficient training through BCEs, local masons	Parameter: Number of masons attending training programmes Explanation: the Programme will build vocational knowledge in the domestic biogas sector, which was previously absent.	+

		are able to construct a biogas unit themselves and train more independent masons on construction and maintenance. (MDG 9).		

Justification choices, data source and provision of references

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

Air quality	In 2004, indoor air pollution caused as a result of the combustion of solid and fossil fuels was responsible for an estimated 2 million deaths[5]. The installation of biodigesters allows the use of biogas as a fuel, thereby providing clean, renewable energy to households. The combustion of biogas will significantly reduce the presence of harmful indoor air pollution[6], thereby benefitting the health of residents, especially women and children who spend the most time indoors.
Water quality and quantity	There is no release of pollutants into any kind of water as part of the manufacturing and operation of biogas systems. While a small amount of water is required to be mixed with manure this is a relatively insignificant amount. The project will contribute to the protection of water resources through reduced deforestation.
Soil condition	The biogas digesters will produce slurry as part of the anaerobic digestion of waste. This slurry has a considerably higher fertility than direct application of manure to the field[7,8] and is provided free of charge to farmers as a bi-product of biogas production. In many cases across East Africa soils can become degraded due to continued harvests .The application of slurry to agricultural soils can therefore help to improve soil condition through increasing organic content.[9] Alternatively, any farmers who have an excess of slurry, or who opt not to apply it to their soils, could sell their slurry to other farmers locally; thereby further helping to offset biogas digester installation costs.

[5] WHO (2010) Health in the green economy: Co-benefits to health of climate change mitigation [online] available at: http://www.who.int/hia/hgebrief_henergy.pdf

[6] WHO (2010) Health in the green economy: Co-benefits to health of climate change mitigation [online] available at: http://www.who.int/hia/hgebrief_henergy.pdf

[7] See for example: Islam et al. (2010) The effects of biogas slurry on the production and quality of maize fodder, *Turk J Agric For*, 34, pp 91 -99; Kurchania, A.K. and Panwar, N.L. (2011) Experimental investigation of an applicator of liquid slurry, from biogas production, for crop production, *Environmental Technology,* 32 (8), pp. 873 – 878.

[8] De Groot, L. and Bogdanski, A. (2013) Bioslurry = Brown Gold? A review of scientific literature on the co-product of biogas production. Food and Agriculture Organizaion of the United Nations.

[9] FAO (2010) Restoring the land, available at: http://www.fao.org/docrep/u8480e/U8480E0D.HTM

Other pollutants	No other pollutants are anticipated from the project.
Biodiversity	Reducing the pressure on forests for wood fuel production has a positive effect on the rate of deforestation and therefore the loss of biodiversity. However, the impact on biodiversity is indirect and has therefore been scored neutral.
Quality of employment	The project will provide vocational training programs[10] to employees, helping them to acquire new technical skills and knowledge. Training will ensure that the construction/installation of the biogas system is done by competent persons. A record of all persons attending the trainings is kept by Biogas Solutions Uganda.
Livelihood of the poor	Dependence on polluting and inefficient household fuels and appliances is both a cause and a result of poverty. In Uganda, the costs of charcoal and firewood have increased significantly according to Uganda Bureau of Statistics Consumer Price Index (CPI) Monthly Report.[11] The use of biogas as a renewable source of fuel will lower annual expenditure due to a reduced need to purchase fuelwood and charcoal.
Access to affordable and clean energy services	Compared to the baseline scenario householder's access to safe and affordable energy will be considerably improved. Biogas fuel will be available at the simple turn of a knob, requiring no laborious and time-consuming collection of fuelwood and no costs beyond initial setup other than for maintenance. As long as the biogas digester is used and maintained properly, a secure supply of biogas will be provided.
Human and institutional capacity	Education is not addressed by the project. Other impacts on capacity building like training on the job are mentioned under other indicators.
Quantitative employment and income generation	The construction and maintenance of digesters will result in the creation of important employment opportunities in rural and urban areas. The overall development objective of the Programme is to promote and disseminate domestic biogas systems as a local, sustainable energy source through the development of a commercial, market oriented sector that focuses its implementation through a multi-stakeholder sectoral development approach that involves locally trained contractors and masons who are supported by vocational training

[10] As specified in the PoA-DD, section A.4.2.2
[11] The Ugandan Bureau of Statistics, The Consumer Price Index –September 2014, available at: https://www.bou.or.ug/bou/bou-downloads/press_releases/2014/Sep/Consumer-Price-Index-for-September-2014.pdf

	institutions. The program aims to create new jobs and a new business sector, therefore also creating opportunities for entrepreneurs to enter the market.
Balance of payments and investment	Investment in the projects will be on the local level and are important in the context of specific rural economies. However at the national level the project investments are not significant.
Technology transfer and technological self-reliance	The open market approach offers opportunities for locals to train in biogas system installation and maintenance. Households can also be energy independent following the installation of a biogas system.

SECTION G. Sustainability Monitoring Plan

[See Toolkit 2.4.3 and Annex I]

Copy Table for each indicator

No		1
Indicator		Air quality
Mitigation measure		N/A
Repeat for each parameter		
Chosen parameter		Perceived improvement in health by the user (incidence of eye problems and respiratory illness)
Current situation of parameter		Current biogas users report an improvement in health as a result of using biogas.
Estimation of baseline situation of parameter		In the absence of the biogas programme, indoor air pollution would continue to have negative impacts on the health of householders, especially women and children who spend the most time indoors and near the domestic hearth. In the baseline scenario households would continue to use wood and fossil fuels for cooking, creating indoor smoke and associated indoor air pollution.
Future target for parameter		The project aims to have users report a perceived improvement in health through reduced smoke inhalation.
Way of monitoring	How	Users of the biogas digesters will be asked if they feel the incidence of eye problems and respiratory illness have a) increased, b) stayed the same or c) decreased as a result of

		getting a biogas digester.
	When	Annually
	By who	VPA Implementing team

No		02
Indicator		Soil condition
Mitigation measure		N/A
Repeat for each parameter		
Chosen parameter		Percentage of biogas users who use slurry as a fertilizer
Current situation of parameter		Prior to the biogas programme, no biogas digester slurry existed to use as fertilizer.
Estimation of baseline situation of parameter		As above.
Future target for parameter		Biogas digester slurry will be used as fertilizer on agricultural lands.
Way of monitoring	How	The occurrence of application of slurry to agricultural land will be monitored through sampling as part of the annual monitoring effort. Stakeholders will be asked how they use the slurry, if at all.
	When	Annually
	By who	VPA Implementing team

No	03
Indicator	Quality of Employment
Mitigation measure	N/A
Repeat for each parameter	
Chosen parameter	Number of masons attending training programmes
Current situation of parameter	All masons employed to date have received training on how to correctly install the biogas digesters.
Estimation of baseline situation of parameter	A historical lack of demand for biogas systems has meant that few masons have the knowledge required to adequately build,

		market and maintain a reliable system.
Future target for parameter		All masons receive vocational training under the programme.
Way of monitoring	How	All vocational training attendees will be issued with a certificate proving their attendance, and a record of their names, contact details and gender, will be kept as part of the CME's consolidated monitoring database. This will be updated as and when trainings are conducted.
	When	As and when trainings are conducted.
	By who	VPA Implementing team

No		04
Indicator		Livelihood of the poor
Mitigation measure		N/A
Repeat for each parameter		
Chosen parameter		Percentage of users reporting changes in expenditure on fuel for cooking
Current situation of parameter		Currently, households use non-renewable biomass and fossil fuels to meet their energy needs. These require time and money for collection and create indoor smoke when burning. This causes respiratory health problems, and the black smoke requires that the household must often be cleaned. The installation of biogas systems will not only improve indoor air quality, but will also reduce cooking times and time spent on cleaning and collecting fuels (primarily benefiting women and children).
Estimation of baseline situation of parameter		As above
Future target for parameter		The livelihood of the poor is improved by a reduced expenditure of fuels for cooking.
Way of monitoring	How	Stakeholders will be asked: Has your expenditure of fuel for cooking a) increased, b) decrease or c) stayed the same since purchasing the biogas digester?
	When	Annually

	By who	VPA Implementing team

No		05
Indicator		Access to affordable and clean energy services
Mitigation measure		N/A
Repeat for each parameter		
Chosen parameter		Number of biogas units installed
Current situation of parameter		As below
Estimation of baseline situation of parameter		Prior to the programme, biogas digesters were prohibitively expensive and little or no farmers made use of this technology.
Future target for parameter		**Year** / **Number of biogas digesters planning to be installed** 2016 — 2,400 2017 — 3,000 2018 — 3,600 2019 — 3,600 **Total** — **20,000**
Way of monitoring	How	The total number of biogas digesters will be determined via the electronic Project Database.
	When	Annually
	By who	VPA Implementing Team

No	06
Indicator	Quantitative employment and income generation
Mitigation measure	N/A
Repeat for each parameter	
Chosen parameter	Number of employees in the project
Current situation of parameter	As bellow

Estimation of baseline situation of parameter		Uganda's unemployment rate grew from 2008 (under 2 %) to 4,2 % in 2012, remains however relatively low in African comparison. GDP per capita (PPP) is estimated at only USD 1,165.[12]
Future target for parameter		New jobs created through the programme as implementation figures grow.
Way of monitoring	How	Records will be kept of all employees and jobs created as part of the programme. Hard copies of employment contracts will be kept by VPA Implementers as evidence. Will include part-time work.
	When	Updated continually as and when new jobs are created and employees taken on.
	By who	VPA Implementing team

No		07
Indicator		Technology transfer and technological self-reliance
Mitigation measure		N/A
Repeat for each parameter		
Chosen parameter		Number of masons attending training programmes
Current situation of parameter		As Parameter 03
Estimation of baseline situation of parameter		As Parameter 03
Future target for parameter		As Parameter 03
Way of monitoring	How	As Parameter 03
	When	As Parameter 03
	By who	As Parameter 03

Additional remarks monitoring

[12] Trading Economics (no date) Economic growth analysis, available from: http://www.tradingeconomics.com/uganda/indicators

All monitoring scheduled to be conducted on an annual basis will be carried out following the sampling methods laid out in the Gold Standard methodology 'Technologies and Practices to Displace Decentralized Thermal Energy Production'.

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 – the demonstration of additionality follows Gold Standard guidance.

H.2. Conservativeness

[See Toolkit 2.2]

Not applicable – the demonstration of additionality follows Gold Standard guidance.

ANNEX 1 ODA declaration

[See Toolkit Annex D]

ODA declaration will be provided at a later stage of the project.