

**SMALL-SCALE VPA VALIDATION REPORT**

**HIVOS**

**VALIDATION OF THE VPA:**

**African Biogas Carbon Programme (ABC) –  
Uganda –VPA003**

**TITLE OF THE POA IN WHICH VPA IS TO BE  
INCLUDED:**

**African Biogas Carbon Programme (ABC)**

**AENOR REFERENCE: 2016/100/VOL/12**

**VERSION: 02**

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>Validation Report:</b>	AENOR Reference nº:		Version of this report:		Date:	
	2016/100/VOL/12		02		03/03/2017	
<b>SSC- VPA-DD:</b>	Title:		Version		Date:	
	African Biogas Carbon Programme (ABC) – Uganda –VPA003		2.3		21/02/2017	
<b>Parties involved:</b>	Host Party		Other involved Parties:			
	Republic of Uganda					
<b>Project Participant(s):</b>	In host Party:		In other involved Parties:			
	Biogas Solutions Uganda Ltd					
<b>Size of the PoA:</b>	<input checked="" type="checkbox"/> Small scale <input type="checkbox"/> Large scale					
<b>Applied methodology/ies:</b>	Title:		Code:		Nº version	Scope:
	Methodology: Gold Standard's 'Technologies and practices to displace decentralized thermal energy'		TPDDTEC		11/04/2011	
<b>Applied tools:</b>	Title:		Version:			
	N/A		N/A			
<b>Emission reductions (ER):</b>			first VPA-DD:		Final VPA-DD:	
	<input checked="" type="checkbox"/> Annual average of the ER (tCO <sub>2e</sub> ) <input type="checkbox"/> Total ER (tCO <sub>2e</sub> )		10,847		7,460	
<b>Previous versions of this document:</b>			Version:		Date:	
			01		22/02/2017	
<b>Report prepared by:</b>	Climate Change Unit. AENOR Internacional S.A.U					

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

### **Abbreviations**

AENOR	AENOR Internacional S.A.U
CAR	Corrective action request
CL	Clarification
CDM	Clean Development Mechanism
SSC-VPA-DD	Voluntary Programme Activity Design Document
SSC-PoA-DD	Small Scale Programme Of Activities Design Document
VER	Voluntary emission reductions
CME	Coordinating and Managing Entity
DNA	Designated national authority
EB	Executive Board of the CDM of the Kyoto Protocol
EIA	Environmental Impact Assessment
GHG	Greenhouse Gasses
GS	Gold Standard
FAR	Forward Action Request
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring plan
MWh	Megawatt hour
NGO	Non-Governmental Organization
PP	Project Participant
tC	Carbon tonne
TPDDTEC	Gold Standard's 'Technologies and practices to displace decentralized thermal energy'

---

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

TJ	Terajoule
UNFCCC	United Nations Framework Convention on Climate Change

**Table 1: Abbreviations**

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<b>Table of Contents</b>		<b>Page</b>
1	INTRODUCTION.....	7
1.1	Objective	7
1.2	Scope	7
2	METHODOLOGY.....	8
2.1	Appointment of team members and technical reviewers	8
2.2	Document review	10
2.3	Follow-up actions	11
2.4	Findings	12
2.5	Internal Quality Control	13
3	VALIDATION FINDINGS.....	14
3.1	VPA Design Document	14
3.2	VPA description	14
3.2.1	Starting date of the VPA	16
3.2.2	GS Eligibility Criteria	16
3.2.2.1	Scale of Project	16
3.2.2.2	Host Country	17
3.2.2.3	Type of Project	17
3.2.2.4	Greenhouse gases	18
3.2.2.5	Official Development Assistance (ODA)	18
3.2.2.6	Project Timeline	18
3.2.2.7	Other certification schemes	19
3.2.3	Criteria for Inclusion of SSC-VPA in the PoA	19
3.3	Baseline methodology	24
3.4	Additionality of the VPA	31
3.5	Monitoring Plan	32
3.5.1	Compliance of the monitoring plan with the approved methodology	32
3.5.2	Implementation of the Monitoring Plan	36
3.6	Comments by Local Stakeholders	36
3.7	Environmental Impacts	39

---

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

---

4	STAKEHOLDER FEEDBACK ROUND .....	40
5	SUSTAINABILITY ASSESSMENT .....	40
5.1	Do no harm assessment	40
5.2	Monitoring of Do no harm assessment	42
6	SUSTAINABLE DEVELOPMENT MATRIX .....	42
7	SUSTAINABILITY MONITORING PLAN .....	45
8	CONTINUOUS INPUT / GRIEVANCE MECHANISM .....	46
9	PRE FEASIBILITY ASSESSMENT .....	46
10	VALIDATION OPINION .....	52
11	REFERENCES.....	64
	ANNEX 1: GS VALIDATION PROTOCOL .....	67

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

### **1 INTRODUCTION**

#### **1.1 Objective**

"Hivos" has commissioned AENOR to assess the information in the GS-SSC-VPA-DD (hereinafter VPA-DD) for the VPA titled "African Biogas Carbon Programme (ABC) – Uganda - VPA003" (hereafter called VPA) against the requirements for including VPAs to the Programme of Activities "African Biogas Programme (ABC)" and documentation requirements for VPA.

The assessment of a VPA requesting to be included in a Programme of Activities (hereinafter PoA) shall ensure that all the requirements determined in the PoA are met. The assessment was performed on the basis of the eligibility and additionality criteria established in the PoA and the GS criteria for including VPAs to Programme of Activities under the GS scheme, as well as criteria given to provide for consistent project operations, monitoring and reporting

This report summarizes the findings of the validation of the specific small-scale GS Programme Activity Design Document (VPA-DD) regarding the requirements established in the referenced PoA for the VPAs.

#### **1.2 Scope**

The validation scope is defined as an independent and objective review of the VPA-DD with generic information relevant to all VPAs to be included in the PoA. The VPA-DD was reviewed against the criteria stated in GS and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology Gold Standard's 'Technologies and practices to displace decentralized thermal energy' version 1 (11/04/2011).

AENOR, based on the specific Instruction for Validation, Verification and Certification of Clean Development Activities (CDM) Project Activities (IE-DTC-039) and it has used a risk-based approach in the validation, focusing on the identification of significant risks for VPAs inclusion in a PoA and the generation of VERs.

The documents listed in section 11 were reviewed as part of the scope of the activity:

The validation is not meant to provide any consultancy services to the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the VPA-DD.

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

## 2 METHODOLOGY

The project assessment aims at being a risk-based approach and is based on the methodology developed in GS, an initiative of designated and applicant entities, which aims to harmonize the approach and quality of all such assessments.

The validation was performed in the manner of an audit, where, first, a desk review of the VPA-DD African Biogas Carbon Programme (ABC) – Uganda –VPA003) was undertaken against the approved methodology and GS and other relevant criteria. The desk review was followed by a site visit and key stakeholders interviews in Uganda.

In order to ensure transparency, a validation protocol was customized for the VPA, according to Specific Instruction IE/DTC/039. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria.

The sequence of the validation is given in the table below:

Topic	Date
On-site visit	27/06/2016-01/07/2016
Validation Protocol - Version 01.	05/07/2016
Final Validation Report	03/03/2017

**Table 2: Sequence of the main validation activities**

### 2.1 Appointment of team members and technical reviewers

The list of involved personnel and the qualification status are summarized in the table below:

Name	Qualification	
	Position in the team	CDM Technical areas
Alfonso Medrano Gutiérrez	Team leader	TA 1.2
Luis Javier Arribas Alonso	Validator	TA 1.2
Marcelino Pellitero Martínez	Technical Reviewer	TA 1.2

**Table 3: List of the personnel involved.**

Technical areas (TA) mentioned above correspond to the following:

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>TA code</b>	<b>Technical area</b>
TA 1.1	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX);
TA 1.2	Energy generation from renewable energy sources.
TA 2.1	Electricity distribution
TA 2.2	Heat distribution
TA 3.1	Energy demand
TA 4. 1	Cement sector (COMPLEX);
TA 4.2	Aluminium (COMPLEX);
TA 4.3	Iron and steel (COMPLEX);
TA 4.4	Refinery (COMPLEX)
TA 5.1	Chemical process industries (COMPLEX).
TA 6.1	Construction.
TA 7.1	Transport.
TA 8.1	Mining and mineral processes, excluding those included in TA 8.2 below;
TA 8.2	Oil and gas industry, coal mine methane recovery and use (COMPLEX).
TA 9.1	Metal production.
TA 10.1	Mining and mineral processes, excluding those included in TA 10.2 below;
TA 10.2	Oil and gas industry, coal mine methane recovery and use (COMPLEX).
TA 11.1	Chemical process industries (COMPLEX);
TA 11.2	GHG capture and destruction.
TA 12.1	Chemical process industries (COMPLEX).
TA 13.1	Waste handling and disposal;
TA 13.2	Animal waste management.
TA 14.1	Forestry
TA 15.1	Agriculture
TA 15.2	Animal waste management.

**Table 4: List of technical areas**

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

### **2.2 Document review**

The "African Biogas Carbon Programme (ABC) – Uganda –VPA003" VPA-DD, submitted by the PPs, was reviewed against the PoA-DD, approved methodology and against GS and other relevant criteria. Additional background documents related to the project design, baseline and additionality analysis were also made available before and during the on-site visit in Uganda.

To address the corrective actions and clarification requests that arose from the desk review and on-site visit, the consultants revised the initial project design documents submitted and developed the final PoA-DD and VPA-DD.

The reviewed documents used during the validation process are listed in section 7 of this report.

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

### 2.3 Follow-up actions

The AENOR validation team composed by Luis Javier Arribas Alonso and Alfonso Medrano Gutiérrez conducted interviews, from 27/06/2016 to 01/07/2016, with project developers and main stakeholders in Uganda to confirm selected information and to resolve issues identified in the document review. During the visit, representatives from the PP, CME, in addition to relevant local stakeholders such as local inhabitants, affected by the VPA were interviewed.

Interviewed organization Person/Position	Interview topics
<b>Hivos</b> - Mrs Victoria Ndungu	<ul style="list-style-type: none"> <li>✓ VPA presentation and design</li> <li>✓ Baseline determination.</li> <li>✓ Environmental Assessment.</li> <li>✓ Stakeholder consultation</li> <li>✓ PoA - VPA Management System</li> <li>✓ VPA implementation</li> <li>✓ Sampling plan</li> </ul>
<b>Climate Focus</b> - Miss Hilda Galt. Carbon Consultant	<ul style="list-style-type: none"> <li>✓ VPA presentation and design</li> <li>✓ Baseline determination.</li> <li>✓ Environmental Assessment.</li> <li>✓ Stakeholder consultation</li> <li>✓ PoA-VPA Management System</li> <li>✓ VPA implementation</li> <li>✓ Sampling plan</li> </ul>

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

Interviewed organization Person/Position	Interview topics
<p><b>Biogas Solutions Uganda Limited</b></p> <ul style="list-style-type: none"> <li>- Mr Peace Kansime. Ag. Managing Director</li> <li>- Mr Walter Okello. Quality Control &amp; Management, Client Service Center, and Extension</li> <li>- Miss Rita Nagudi. Finance &amp; Administration Manager</li> <li>- Mr Florence Kantun. Business Development &amp; Marketing Manager</li> <li>- Mr. Godfrey Ayebale. Contracts, Monitoring &amp; Evaluation Manager</li> </ul>	<ul style="list-style-type: none"> <li>✓ Sales Agreement</li> <li>✓ Monitoring</li> <li>✓ Data Management</li> <li>✓ Biodigesters technical characteristics &amp; installation</li> <li>✓ Training</li> <li>✓ Stakeholder consultation</li> </ul>

**Table 5. Interview topics**

## 2.4 Findings

As an outcome of the validation process, the team can raise different types of findings according to the GS requirements.

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable GS requirements have been met; or

Where a non-conformance arises the validation team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- b) The GS requirements have not been met;
- c) There is a risk that emission reductions cannot be monitored or calculated.

Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

A Forward Action Request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the GS requirements for registration.

The project participants were requested to address all validation findings and ultimately provided the validation team with sufficient evidence to determine that the applicable GS requirements have been met. The project participant modified the initial VPA-DD to resolve the validation team concerns and resubmitted a final version of the VPA-DD. AENOR has prepared this report based on the final VPA-DD.

All the validation findings are summarized in section 3 below and documented in more detail in section 6 and in the validation protocol included in Annex 1.

### **2.5 Internal Quality Control**

Following the completion of the assessment process by the validation team, all documentation undergoes an internal quality control through a technical review before submission to the GS. The technical reviewer is a qualified member of AENOR, independent from the team that carried out the validation of the project activity. The technical reviewer or the team appointed for the technical review are qualified in the technical area(s) and sectoral scope(s) of the PoA.

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

### **3 VALIDATION FINDINGS**

#### **3.1 VPA Design Document**

Due to the clarifications and corrective actions requested during the validation process, the project participants made a final version of the VPA-DD dated on 21/02/2017, which includes corrections or clarifications to all issues raised.

The VPA-DD is in compliance with relevant form and guidance as provided by GS.

AENOR considers that the applicable guidelines for the completion of the PoA documents have been followed. Relevant information was provided by the Managing Entity and/ or project participants in the applicable VPA sections. Completeness was assessed through the protocol included in Annex 1.

#### **3.2 VPA description**

The following description of the project as per African Biogas Carbon Programme (ABC) – Uganda –VPA003) VPA-DD could be verified during the on-site visit and desk review:

VPA 003 includes biogas systems to be installed in households and small dairy farms in Uganda. All biogas systems will be run on a feedstock of animal manure.

The VPA has installed biogas digesters of one specific model: the "Fixed Dome Biogas Digester" with capacities of 4 m<sup>3</sup>, 6 m<sup>3</sup>, 8 m<sup>3</sup>, 10 m<sup>3</sup> and 12m<sup>3</sup>.

The PP selected the appropriate biogas technology to be implemented through engagement with a wide range of stakeholders. They agreed on the fixed dome digester design as being the most suitable for the Ugandan context.

The use of biodigester models is simple:

- a) Collect manure and mix with water according to the type of manure used and biodigester model
- b) Feed this mix into the biodigester.
- c) Both biogas and sludge are produced.

The biogas is used as cooking fuel throughout the day. The build-up of gas will push out slurry through the exit pipe of the biogas system, and is a fertiliser that can either be applied directly to crops or composted with other organic material.

The size of VPA 003 will be kept below the small scale limit; the aggregate capacity of the VPA will not exceed 45MW<sub>th</sub>, whilst the thermal capacity amounts to 37.36 MW<sub>th</sub>.

---

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

The distribution mechanism of the biodigester plants is guaranteed through the generation of a local biogas market that involves several on the ground activities in each region of the country. During the first year, the kick-start of the VPA, there was a low number of installations because all activities start at once in a coordinated effort: promotion, and awareness raising of the benefits of biogas technologies, training of masons and installers, subsidy and credit must become available, biogas users must also be trained in operation and maintenance.

Through reviewing the document "Programme\_implementation\_uganda\_2010", Baseline Study Report and desk review of other documents of the project mentioned in section "References", the site view and interviews with Project Participants and stakeholders, AENOR opinion is that the project description in the final VPA-DD is accurate and complete.

This VPA will disseminate biogas systems over the entire territory of Uganda. The primary means to uniquely identify the activities under the VPA is by means of buyer information collected through Sales Agreements. These include a serial number, customer name, address, GPS coordinates (for non-retroactively included digesters), date of sale, name of VPA implementer, biogas model and size.

The information presented in the VPA documents on the technical design is consistent with the actual planning and implementation of the project activity confirmed in the following ways:

- A review of data and information (see section 7)
- An on-site visit to the place where the VPA is being implemented and interview with relevant stakeholder and personnel with knowledge on the project.
- A review of information related to similar projects or technologies which have been used to validate the accuracy and completeness of the project description.

In conclusion, AENOR confirms that the VPA project description, as included in the VPA-DD, is consistent, sufficiently accurate and complete in order to comply with the requirements of the GS.

#### **Project Participants, CME and VPA implementer(s)**

The CME (Coordinating and Managing Entity) of this PoA is "HIVOS. Information regarding project participants is confirmed as consistent in the PoA-DD, and in the VPA-DD.

The African Biogas Carbon Programme (ABC) – Uganda –VPA003) implementer is specified as Biogas Solutions Uganda Ltd. Information regarding VPA implementer is confirmed as consistent in the VPA003.

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

### **VPA Boundary and Location.**

The boundary of the VPA under this PoA is defined as *"the physical, geographical site of the use of biomass or the renewable energy and the physical, geographical site of the methane recovery and combustion systems"*.

Therefore, the project boundary of this VPA is the geographical boundary of the regions in Uganda. The database managed by the CME will record the geographical coordinates (GPS) and/or the identification of the users, when possible, of each installed biogas system as a way to confirm that the VPA covers only biogas systems located within this boundary.

The physical delineation of the VPA under the PoA and the description of the emission sources and GHGs that are included in the VPA boundary are appropriate for the purpose of calculating project and baseline emissions for VPA003.

In addition, all emission sources and GHGs related included and excluded from the project boundary are clearly identified and described in a complete manner in the latest version of the VPA-DD.

The validation team states that the identified boundary and the selected sources and gases are correctly justified by the project proponent in the VPA-DD, and they are in accordance with the applied methodology.

#### **3.2.1 Starting date of the VPA**

The starting date of this programme activity is 11/11/2009, the date of signing the first Sales Agreement/45/ for the first digester to be included in this VPA. Retroactive inclusion is pursued.

The project activity is a "retroactive" project activity and, there is no real action that has been taken before the implementation of the project activity. The latest version of the VPA-DD states that the VPA crediting period will start 2 years before the VPA003 inclusion and states that the crediting period for this VPA is a renewable crediting period of 7 years, which is within the 28 years duration of the PoA.

#### **3.2.2 GS Eligibility Criteria**

##### **3.2.2.1 Scale of Project**

AENOR confirms that the VPA remains below the small scale limits. For activities falling under Type I each VPA in aggregate will remain below 15 MW (45MWth) per year. For activities falling under Type III each VPA will achieve below 60,000 tCO<sub>2e</sub> in emission reductions annually.

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

AENOR has validated that according to the sales contract no Biogas systems larger than 150kW (450kW<sub>th</sub>) are accepted under this SSC-VPA. Furthermore, each sub-unit has 3.29 kW thermal capacity according to the calculations of the Emissions Reductions Calculation spreadsheet.

AENOR has validated through the sales contract that Biogas systems achieving an estimated annual emission reduction larger than 60,000 tCO<sub>2e</sub> per year will not be included in the SSC-VPA. AENOR has validated through the "Emissions Reductions Calculation" spreadsheet that the annual emissions reductions from Type III of the project is 5,070 tCO<sub>2e</sub>/year which is below the 60,000 tCO<sub>2e</sub> (Type III threshold). Furthermore, the total ERs achieved by the VPA (Type I and Type III) is 7,460 tCO<sub>2e</sub>/year which far below 60,000 tCO<sub>2e</sub>/year.

#### **3.2.2.2 Host Country**

The geographical boundary of this VPA is the geographical area of Uganda. The database managed by the CME will record the geographical coordinates (GPS) and/or the identification of the users, when possible, of each installed biogas system as a way to confirm that the VPA covers only biogas systems located within this boundary.

AENOR confirms that Uganda is eligible for Gold Standard CDM and Gold Standard JI projects as defined by the UNFCCC. Uganda ratified Kyoto Protocol in March 2002 and is in the list of Non Annex I Parties to the Convention.

#### **3.2.2.3 Type of Project**

According to Annex C "Guidance on project type eligibility", specific eligibility criteria apply to some types of project activities. This VPA belongs to the following project types:

- Biogas (landfill gas and biogas from agro-processing, wastewater and other residues).

The VPA is eligible for emission reductions from both methane avoidance and non-renewable fuel substitution because the digesters have been designed to make use of the biogas for cooking. AENOR as it has been explained above, has validated this approach through evidence /24//25//26//46/ and also during the on-site visit.

- Improved distributed heating and cooking devices (e.g. biodigesters, cookstoves)

The CME included, as an eligibility criterion in the PoA (criterion 14), that the transfer of credit ownership must be discussed during local stakeholder consultations. Besides, for retroactive VPAs like this one, the CME shall collect stakeholder feedback on this matter through live consultations, telephone discussions or electronic mode to reach out to the

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

relevant stakeholders. AENOR validated through evidence /38//39//40/ and also through the VPA Passport (section E.2) that the end users were properly informed on the transfer of credit ownership and agreed to give up their rights on emission reductions.

In summary AENOR confirms that the VPA complies with the GS eligibility criteria as per Annex C “Guidance on project type eligibility”.

### 3.2.2.4 Greenhouse gases

AENOR has verified that the gases produced by the project are carbon dioxide and methane both eligible under The Gold Standard:

Source		Gas	Included	Justification / Explanation
Baseline	Heat delivery Treatment of manure	CO <sub>2</sub>	Yes	CO <sub>2</sub> emissions from - fossil fuel cook stoves - cook stoves using non-renewable biomass
		CH <sub>4</sub>	Yes	CH <sub>4</sub> emissions from the baseline treatment methods of manure
		N <sub>2</sub> O	No	Excluded, insignificant source of emissions.
Project Activity	Combustion of biogas	CO <sub>2</sub>	Yes	CO <sub>2</sub> emissions from - fossil fuel cook stoves - cook stoves using non-renewable biomass
		CH <sub>4</sub>	Yes	Emissions due to the manure not fed into the biodigester, as per the applied methodology.
		N <sub>2</sub> O	No	Excluded, insignificant source of emissions.

### 3.2.2.5 Official Development Assistance (ODA)

The PoA receives Official Development Assistance from the Dutch government. This public funding does not lead to a diversion of ODA.

AENOR, as it is explained in VPA eligibility criterion nº 8, has validated that Annex D - Official Development Assistance Declaration /31//32/, has been correctly completed by the VPA implementer and CME (Biogas Solutions Uganda Ltd/HIVOS).

### 3.2.2.6 Project Timeline

As it has been explained above, this project activity is a “retroactive” project activity and, there is no real action that has been taken before the implementation of the project activity. The latest version of the VPA-DD states that the VPA crediting period will start 2 years

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

before the VPA Inclusion and states that the crediting period for this VPA is a renewable crediting period of 7 years, which is within the 28 years duration of the PoA.

AENOR has validated that the early consideration of carbon revenues is properly demonstrated through the evidence «*Uganda Programme Implementation Document*» /17/, dated on January 2010. In that document, Carbon finance mechanism is mentioned at several places and clearly demonstrates that the project went ahead taking into account anticipated carbon revenues»

Therefore it is AENOR opinion that VPA003 complies with PoA eligibility criterion 15 and with the requirements of paragraph 2.5.1 of the GS Toolkit 2.2 to be eligible for a Gold Standard retroactive registration because it has been demonstrated through documented evidence the early consideration of carbon revenues.

### **3.2.2.7 Other certification schemes**

AENOR confirms that this VPA is not claiming White or Green Certificates, or any equivalent. Furthermore, as it is explained below, an specific eligibility criterion for inclusion of the VPA in the PoA has been defined in order to avoid double counting (Criterion nº 2).

### **3.2.3 Criteria for Inclusion of SSC-VPA in the PoA**

A complete list of VPA Eligibility Criteria has been set up in the final VPA-DD as defined in the PoA-DD, and the compliance of the specific VPA. The criteria are considered precise, clear and accurate. The eligibility criteria are stated as follows:

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Nr	Requirement	Eligibility criteria	VPA-DD Indicator
1.	The geographical boundary of the VPA including any time-induced boundary consistent with the geographical boundary set in the PoA	<p>All biogas systems included in the VPA will demonstrate they fall within the geographical boundary of the PoA through:</p> <ul style="list-style-type: none"> <li>- Recording the address/location of the system in the Sales Agreement</li> <li>- Recording the GPS coordinates of the systems (not relevant for retroactive digesters)</li> <li>- Physically attaching a Programme or VPA logo to the digester which identifies it as being part of the African Biogas Partnership Programme on a national scale.</li> </ul>	<p>The following document is provided:</p> <ul style="list-style-type: none"> <li>- Uganda Implementation document 2010</li> <li>- Sales Agreement</li> </ul>
2.	Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations	<p>The VPA shall demonstrate that it does not double-count any of its appliances for the ERs estimation by confirming that:</p> <ul style="list-style-type: none"> <li>- The complete address of each biogas system will be recorded</li> <li>- the biogas systems have unique serial numbers (not relevant for the retroactive digesters)</li> <li>- the VPA implementer has not included these biogas systems in another VPA or carbon project.</li> </ul>	<p>The following documents are provided:</p> <ul style="list-style-type: none"> <li>- Contractual agreement between CME and Biogas Solutions Uganda Ltd (signed ERPA)</li> <li>- Declaration from Biogas Solutions Uganda Ltd</li> <li>- Sales Agreement</li> </ul>

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Nr	Requirement	Eligibility criteria	VPA-DD Indicator
3.	The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications	The biogas systems disseminated are renewable energy generation units to provide thermal energy and will be required to conform to any applicable national standards.	<p>The following document is provided: Technical documentation describing the operation of the biogas system (Operation Manual of Biogas plants)</p> <p>There are no national standards regulating biogas digester technologies in Uganda.</p>
4.	Conditions to check the start date of the VPA through documentary evidence	The VPA implementer will demonstrate the start date of the VPA is on or after the start date of the PoA. The start date of the VPA will be defined as the date on which the first Sales Agreement is signed under the VPA.	<p>The following documents are provided:</p> <ul style="list-style-type: none"> <li>- Sales Agreements for the first digester included under the VPA.</li> <li>- Project Database</li> </ul>
5.	Conditions that ensure compliance with applicability and other requirements of single or multiple methodology applied by VPAs	The VPA complies with the baseline and monitoring methodology requirements of the 'Technologies and Practices to Displace Decentralised Thermal Energy Consumption' (version 1.0). and should meet its eligibility criteria as discussed in Section B.2 of the PoA-DD.	<p>The following documents are provided as evidence:</p> <ul style="list-style-type: none"> <li>- Project Database</li> <li>- Kitchen Performance Test (KPT) reports</li> <li>- Sales Agreement</li> </ul>
6.	The conditions that ensure that VPAs meet the requirements pertaining to the demonstration of additionality	<p>The VPA will prove additionality as per the following approach:</p> <p><b>1) Positive List</b></p> <ol style="list-style-type: none"> <li>1. Biogas system rated capacity is less than 2.25MW<sub>th</sub> each</li> <li>2. Biogas systems are disseminated to households or communities or Small and Medium Enterprises (SMEs).</li> </ol>	<p>The following evidence is provided:</p> <ul style="list-style-type: none"> <li>- Calculation showing the capacity of the biogas system(s) in MW</li> <li>- Programme Implementation Document</li> </ul>

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Nr	Requirement	Eligibility criteria	VPA-DD Indicator
7.	The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis	1. The VPA, organised a local stakeholder consultation (LSC) in accordance with Gold Standard requirements 2. The VPA, or a group of VPAs, got environmental clearance for the project related activities, if applicable.	The following document is provided: – Local Stakeholder Report (Uganda)  An environmental impact assessment is not required for activities implementing household biodigesters in Uganda.
8.	Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance	The VPA will demonstrate that any Official Development Assistance received for the VPA has not occurred on the condition that the resulting credits are transferred to the donor country	The following document is provided: – ODA Declaration
9.	Where applicable, target group (e.g. domestic / commercial / industrial, rural / urban, grid connected / off-grid) and distribution mechanisms (e.g. direct installation)	The VPA will demonstrate which target group(s) is/are to be targeted by the VPA and the distribution mechanism. Target groups shall include: – Households – Small/Medium Enterprises – Communities	The following document is provided: – Implementation document (Uganda Domestic Biogas Programme Implementation Document).  – The VPA shall include households as the target group.  – The biogas digesters are directly installed at the user's household.
10.	Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys	The VPA Implementer will agree to support the sampling and survey activities of CME in accordance with B.7.2 of the PoA-DD.	The following document is provided: – Contractual agreement between CME and Biogas Solutions Uganda Ltd

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Nr	Requirement	Eligibility criteria	VPA-DD Indicator
11.	Where applicable, the conditions that ensure that every VPA in aggregate meets the small-scale threshold criteria and remains within those thresholds throughout the crediting period of the VPA	The VPA Implementer will ensure that each VPA remains below the small scale limits. For activities falling under Type, each VPA in aggregate will remain below 15 MW (45MW <sub>th</sub> ) per year. For activities falling under Type III each VPA will achieve below 60,000 tCO <sub>2</sub> e in emission reductions annually.	The following documents are provided: <ul style="list-style-type: none"> <li>- Capacity calculation of the biogas system(s), showing that the VPA Type I installed capacity is below the 15MW (45MW<sub>th</sub>) threshold.</li> <li>- Emission reduction calculation, showing that the VPA Type III emissions are below the 60,000 tCO<sub>2</sub>e threshold.</li> </ul>
12.	Where applicable, the requirements for the debundling check, in case VPAs belong to small-scale (SSC) or microscale project categories.	The VPA implementer will demonstrate that the VPA is not a de-bundled component via the following approach: <ol style="list-style-type: none"> <li>1. The biogas systems are less than 1% of the SSC threshold (as per paragraph 10 EB54 Annex 13)</li> </ol>	The following evidence is provided: <ul style="list-style-type: none"> <li>- Calculation showing the capacity of the biogas system(s)</li> </ul>
13.	The proposed VPA must ensure that sufficient training has been carried out to ensure the construction / installation of the biogas system is done by competent persons	The VPA implementer will provide sufficient evidence of training or qualification to implement the proposed VPA.	The following documents are provided: <ul style="list-style-type: none"> <li>- Training certificates</li> <li>- Training records</li> <li>- Qualification certificates</li> </ul>
14.	Transfer of rights to carbon credits.	The end user of each biogas digester has been properly informed during the stake holders consultation on the transfer of credit ownership has and agreed to transfer all rights to any carbon credits to the VPA Implementer.	The following documents are provided: <ul style="list-style-type: none"> <li>- Sales Agreement</li> <li>- Contractual agreement between CME and Biogas Solutions Uganda Ltd</li> </ul>

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

Nr	Requirement	Eligibility criteria	VPA-DD Indicator
15.	Prior consideration on carbon revenues	For retroactive VPAs, prior consideration of carbon revenues shall be checked at the time of inclusion by checking that carbon revenues are considered in early project documentation before the date of VPA inclusion (e.g. in a feasibility report, a programme implementation document or similar documentation).	The following documents are provided: Programme Implementation Document

Based on the aforementioned approach, AENOR confirms that the eligibility including additionality is appropriately demonstrated for this specific VPA in accordance with the eligibility criteria listed in PoA-DD and in accordance with GS procedures.

### 3.3 Baseline methodology

The PoA-DD describes the baseline methodology, which is in conformance with the approved baseline methodology Gold Standard’s ‘Technologies and practices to displace decentralized thermal energy’ version 1. This methodology is applicable to programs or activities introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households, communities. This includes biodigesters.

The version of the methodology is the same as in the PoA-DD. According to the related PoA, the eligibility criteria are fulfilled by specific VPA as it is established in the VPA-DD.

The application of the baseline methodology has been transparently detailed in the VPA-DD. The consideration of the leakages, the boundaries of the VPA and the calculations are in accordance with the provisions of the relevant methodology. The guidelines for the application of the methodology in the PoA have been clearly accomplished by the VPA.

It is important to note that regarding the identification of baseline scenarios a Baseline Survey conducted back in 2010 by the VPA implementer has been used. AENOR has verified that although the survey was extensive, it does not include all the parameters needed for the ERs ex-ante calculation.

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

Therefore, other baseline surveys such as: UpEnergy (2014) /15/ and Kenya Biogas Survey 2014 /52/ have been used to complete the calculation of Baseline scenario 1 «Amount of woody biomass and fossil fuels in tonnes per year». Baseline scenarios 2 and 3 will be determined prior to the first verification process.

AENOR considered the information extracted from those surveys to be appropriate for the ex-ante calculation taking into account that these data will be updated prior to the first verification process.

AENOR has verified too that none of the parameters estimated ex ante through the surveys are considered to be fixed ex-ante and that the VPA-DD states that all figures will be updated prior to first verification either through a) the Monitoring Survey or b) KPTs.

AENOR confirmed that this approach was previously approved by the GS through evidence /21//22/.

AENOR raised FAR1 in order to be sure that the ex-ante calculations will be updated prior to the first verification process through Monitoring Surveys and KPTs.

A spreadsheet for the ERs calculation called “Emission Reduction Calculations”/44/ has been provided to the validation team. Thus, AENOR has validated that data and assumptions considered and listed in the VPA-DD and VPA spreadsheet calculations are consistent with stated data. Furthermore, AENOR has reproduced the calculation in a clear and transparent manner to obtain the same results, which confirms that the baseline methodology has been correctly applied.

### **Emission reductions due to the displacement of non-renewable biomass**

In accordance with the methodology, the emission reductions are calculated as follows:

$$ER_{CO2,y} = \sum_{b,p} N_{p,y} * U_{p,y} * (f_{NRB,b,y} * ER_{b,p,y,CO2} + ER_{b,p,y,non-CO2}) - \sum LE_{p,y}$$

Where:

- $ER_{CO2,y}$  Cumulative CO2 emission reductions from the substitution of non-renewable biomass and fossil fuels
- $\sum_{b,p}$  Sum over all relevant (baseline b1, b2,b3/project p) couples
- $N_{p,y}$  Cumulative project operational rate included in the project database for project scenario p against baseline scenario b in year y
- $U_{p,y}$  Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate (fraction)

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

- $ER_{b,p,y,CO_2}$  Specific CO<sub>2</sub> emission savings for an individual technology of project  $p$  against an individual technology of baseline  $b_1, b_2, b_3$  in year  $y$ , in tCO<sub>2</sub>/year and as derived from the statistical analysis of the data collected from the field tests
- $ER_{b,p,y,non-CO_2}$  Specific non-CO<sub>2</sub> emission savings for an individual technology of project  $p$  against an individual technology of baseline  $b_1, b_2, b_3$  in year  $y$ , converted in tCO<sub>2</sub>/year, and as derived from the statistical analysis of the data collected from the field tests
- $f_{NRB,b,y}$  Fraction of biomass used in year  $y$  for baseline scenario  $b$  that can be established as non-renewable biomass
- $LE_{p,y}$  Leakage for project scenario  $p$  in year  $y$  (tCO<sub>2</sub>e/yr)

As specific non-CO<sub>2</sub> emission savings are treated in a separate equation, the VPAs included under this programme can apply the following formula for calculating emission reductions for the VPA:

$$\sum ER_{CO_2,y} = (\sum BE_{b,CO_2,y} - \sum PE_{p,CO_2,y} - \sum LE_{p,CO_2,y}) * N_{p,y} * U_{p,y}$$

Where:

- $\sum ER_{CO_2,y}$  Cumulative CO<sub>2</sub> emission reductions from the substitution of non-renewable biomass and fossil fuels
- $\sum BE_{b,CO_2,y}$  Cumulative baseline emissions as calculated below under formula (3)
- $\sum PE_{p,CO_2,y}$  Cumulative project emissions as calculated below under formula (4)
- $\sum LE_{p,CO_2,y}$  Cumulative leakage as per methodology guidance<sup>1</sup>
- $N_{p,y}$  Cumulative project operational rate included in the project database for project scenario  $p$  against baseline scenario  $b$  in year  $y$

$U_{p,y}$  Cumulative usage rate for technologies in project scenario  $p$  in year  $y$ , based on cumulative adoption rate and drop off rate (fraction

According to methodology. project participants shall determine the shares of renewable and non-renewable woody biomass in the quantity of woody biomass used in the absence of the project and the total biomass consumption using nationally approved methods (e.g. surveys or government data if available) and then determine  $f_{NRBY}$ . The differentiation between non-renewable and renewable woody biomass is determined following the approach outlined in Annex 1 of the methodology.

<sup>1</sup> Technologies and practices to displace decentralized thermal energy – 11/04/2011' p.11 - 12

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

AENOR verified that the 82% fNRB value applied in this VPA is evidenced in the EB 67, Annex 22:

[https://cdm.unfccc.int/filestorage/H/2/9/H29X6EKQMJU7RY85DIT4ZPFAL301GW/eb67\\_repa\\_n22.pdf?t=R3l8b2t6eDg2fDD7VjS5sEhuqar778-piktY](https://cdm.unfccc.int/filestorage/H/2/9/H29X6EKQMJU7RY85DIT4ZPFAL301GW/eb67_repa_n22.pdf?t=R3l8b2t6eDg2fDD7VjS5sEhuqar778-piktY)

AENOR confirms that the charcoal-to-biomass ratio of 8 finally included in the ERs is appropriate and conservative. It is extracted from the Biogas Survey report 2010. This figure is more conservative than the one used in VPA001 and VPA002 that was 10.

Taking into account the assumptions applied, and that this calculation shall be updated prior to the first verification process, the ex-ante Emissions Reductions according to the component 1 are detailed below:

Baseline scenario	Baseline emissions from fuel use (tCO <sub>2</sub> e/yr)	Project emissions from fuel use (tCO <sub>2</sub> e/yr)	Leakage emissions from fuel use (tCO <sub>2</sub> e/yr)	Emissions from fuel switch to biogas (tCO <sub>2</sub> e/yr)
B1	4,656	2,989	0	1,667

### **Emission reductions due to the avoidance of methane emissions from manure handling**

The emissions from the animal waste management system of the baseline have been determined using the IPCC 2006 Tier 2 approach. The Tier 2 approach is correct since the approach is applicable to situations where baseline data for an estimation of the methane emission factor per category of livestock are available.

The baseline emissions per household has been calculated as follows:

$$BE_{b,CH_4,h,y} = \frac{(VS_T * 365) * (B_{0,T} * 0.67 \text{ kg/m}^3 * MCF_{x,k} * MS_{T,x,k} * GWP_{CH_4} * N_{T,h})}{1000}$$

Where:

- $BE_{b,CH_4,h,y}$  Baseline emissions from manure handling during the year y in tCO<sub>2</sub>e for manure handling method h
- $VS_T$  Daily volatile solid excreted for livestock category T in kg dry matter per animal per day
- $B_{0,T}$  Maximum methane producing capacity for manure produced by livestock category T in m<sup>3</sup> CH<sub>4</sub>

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

- $MCF_{x,k}$  Methane conversion factors for the animal waste handling system in the baseline situation by climate zone  $k$ , (%)
- $MS_{T,x,k}$  Fraction of livestock category  $T$ 's manure handled using manure management system  $x$  in climate region  $k$  (determined through survey method ex-post)
- $GWP_{CH4}$  Global Warming Potential of methane
- $N_{T,h}$  Number of livestock category  $T$  in premise  $h$

The baseline methane emissions per household per year under the VPA-3 are:

$$BE_{b1,2,3,CH4,h,y} = \frac{\sum VS_T * B_{0,T} * 0.67kg/m^3 * 3.59\% * 1 * 25 * 365}{1000} = 0.624 \text{ tCO}_2e$$

Therefore:

$$BE_{b1,2,3,CH4,h,y} = \frac{(1.90) * (328)}{1000} = 0.624 \text{ tCO}_2$$

Project emissions include both the physical leakage of biogas from the biodigester and the incomplete combustion of biogas. These shall be accounted for in accordance with equation (17) of the applicable methodology:

$$PE_{p,CH4,y} = GWP_{CH4} * \sum (N_{T,h,y} * EF_{awms,T}) * PL_y + \sum (N_{T,h,y} * EF_{awms,T}) * (1 - \eta_{\text{new stove}}) * (1 - PL_y)$$

Where:

- $PE_{p,CH4,y}$  Project emissions from manure handling during the year  $y$  in  $\text{tCO}_2e$
- $GWP_{CH4}$  Global Warming Potential of methane (25)
- $N_{T,h}$  Number of livestock category  $T$  in premise  $h$
- $EF_{awms,T}$  Emission factor for the defined livestock population category  $T$
- $PL_y$  Physical leakage of the biodigester (through measurement or application of 10% default)
- $\eta_{\text{new stove}}$  Combustion efficiency of the used type of biogas stove
- $PE_{awms,NT}$  Project emission from the animal waste not treated in the biodigester. In the above equation,  $EF_{awms,T}$  is further defined as:

$$EF_{awms,h} = \frac{(VS_T * 365) * (B_{0,T} * 0.67kg/m^3 * MCF_{x,k} * MS_{T,x,k})}{1000}$$

- $EF_{awms(T)}$   $\text{CH}_4$  emission factor for livestock category  $T$ , ( $\text{tCH}_4$  per animal per year)
- $VS_{(T)}$  Daily volatile solid excreted for livestock category  $T$ , (kg dry matter per animal per day)

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

- 365 Basis for calculating annual VS production, (days per year)
- $Bo_{(T)}$  Maximum methane production capacity for manure produced by livestock category  $T$ , (m<sup>3</sup>CH<sub>4</sub> per kg of VS excreted)
- $D_{CH_4}$  CH<sub>4</sub> density (0.00067 t per m<sup>3</sup> at room temperature)
- $MCF_{(BL,k)}$  Methane conversion factors for the animal waste handling system in the baseline situation by climate zone  $k$ , (%)
- $MS_{(p,S,k)}$  Fraction of livestock category  $T$ 's manure treated in the animal waste management system, in climate region  $k$  (dimensionless)

AENOR has validated that the Biodigester stoves efficiency used in the ERs calculation (0.55) is properly supported by using the lowest value of efficiency from the following technical specification reports:

- Puxin JZZ2-A13 Efficiency
- SNV Lotus III Efficiency
- Xunda JZZ.2-A1 Efficiency
- Xunda JZZ2-88 Efficiency
- Wusi JZZ.2A1 stove manual Efficiency

The project methane emissions per household per year under the VPA-3 are therefore:

$$PE_{p1,CH_4,y} = 25 * 0.01 * 0.1 + 0.01 * 25 * (1 - 55%) * (1 - 10\%)) = \mathbf{0.159 \text{ tCO}_2}$$

Emission reductions per VPA will be calculated as:

$$ER_{CH_4,y} = (BE_{b,CH_4,y} - PE_{p,CH_4,y}) * N_{p,y} * U_{p,y}$$

Where:

$ER_{CH_4,y}$	Methane emissions reductions in year $y$ (tCO <sub>2</sub> )
$BE_{b,CH_4,y}$	Baseline methane emissions during the year $y$ (tCO <sub>2</sub> )
$PE_{p,CH_4,y}$	Project methane emissions during the year $y$ (tCO <sub>2</sub> )
$N_{p,y}$	Cumulative project operational rate included in the project database for project scenario $p$ against baseline scenario $b$ in year $y$
$U_{p,y}$	Cumulative usage rate for technologies in project scenario $p$ in year $y$ , based on cumulative adoption rate and drop off rate (fraction)

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

### Calculation

The ex-ante emission reductions from methane avoidance per household per year under the VPA-3 are:

$$0.624 - 0.154 = \mathbf{0.470 \text{ tCO}_2\text{e}}$$

AENOR confirms that the actual baseline conditions (manure handling methods and quantity of baseline fuels used) for verification purposes will be confirmed via a survey and baseline fuel test (BFT) that is to be conducted by Biogas Solutions Uganda Ltd prior to the first verification of this VPA. (see FAR1).

### Emissions reductions:

The next table shows the ex-ante estimate of the emission reductions for each biogas unit for all baseline scenarios:

	<b>BE<sub>b,CH4,v</sub></b> <b>(tCO<sub>2</sub>e/year)</b>	<b>PE<sub>b,CH4,v</sub></b> <b>(tCO<sub>2</sub>e/year)</b>	<b>ER<sub>CH4,v</sub></b> <b>(tCO<sub>2</sub>e/year)</b>
Per biogas digester (from fuel use)	3.655	2.989	0.666
Per biogas digester (from manure handling)	0.624	0.154	0.470
Per biogas digester (total)	4.279	3.143	<b>1.136</b>

The cumulative ex-post emission reductions will be calculated with the following calculation:

$$\mathbf{ER_{Total}} = (ER_{CO2,y} + ER_{CH4,y}) * N_{p,y} * U_{p,y}$$

Where:

ER<sub>CO2,y</sub> CO<sub>2</sub> emissions reductions in year y (tCO<sub>2</sub>)

ER<sub>CH4,y</sub> Methane emissions reductions in year y (tCO<sub>2</sub>)

N<sub>p,y</sub> Cumulative project operational rate included in the project database for project scenario p against baseline scenario b in year y

U<sub>p,y</sub> Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate (fraction)

AENOR, based on the above assessment, confirms that:

- All assumptions and data used by the project participants are listed in the VPA-DD, including their references and sources;
- All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the VPA-DD;
- All values used in the VPA-DD are considered reasonable in the context of the proposed GS project activity;

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

- The baseline methodology have been correctly applied to calculate project emissions, baseline emissions, leakage and emission reductions;
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the VPA-DD.
- The ex-ante calculation shall be updated prior to the first verification process. (FAR1).

#### **3.4 Additionality of the VPA**

The "African Biogas Carbon Programme (ABC) – Uganda –VPA003" describes how the additionality of the VPA is complied.

The additionality of the VPA is demonstrated per the conditions outlined in the registered GS PoA. This section states that conditions to demonstrate additionality need to be met for the VPA in accordance with the GS criteria

The VPA003 has proved the additionality as per the following approach:

##### **1) Positive List**

- Biogas system rated capacity is less than 2.25MWth each
- Biogas systems are disseminated to households or communities or Small and Medium Enterprises (SMEs).

AENOR has validated through the "Emissions Reductions Calculation" spreadsheet /44/ that the thermal capacity of each biogas stove less than 2.25MWth.

- 1. Each individual household biogas system in the SSC-VPA must have a maximum thermal capacity of 450 kW<sub>th</sub>.*

AENOR has validated that according to the sales contract no Biogas systems larger than 150kW (450kW<sub>th</sub>) are accepted under this SSC-VPA. Furthermore, as it has been explained above, each sub-unit has 37.36 kW thermal capacity according to the calculations of the Emissions Reductions Calculation spreadsheet.

- 2. Each of the independent biogas systems in the project activity achieves an estimated annual emission reduction equal to or less than 60,000 tCO<sub>2e</sub> per year.*

AENOR has validated through the sales contract that Biogas systems achieving an estimated annual emission reduction larger than 60,000 tCO<sub>2e</sub> per year will not be included in the SSC-VPA. AENOR has validated through the Emissions Reductions Calculation spreadsheet that the annual emission reduction of the project is 7,460 tCO<sub>2e</sub>/year which is below the 60,000 tCO<sub>2e</sub>.

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

### 3. Users of the biodigester systems are households/communities/SMEs.

AENOR has validated through the sales contract that users other than households/communities/ SMEs will not be included in this SSC-VPA.

#### 2) Early consideration of carbon revenues

AENOR has validated that the early consideration of carbon revenues is properly demonstrated through the evidence: “Uganda National Domestic Biogas Programme Implementation Document”/3/ which is dated in 2010, prior to the inclusion of VPA003 in the PoA ABC as it is required by PoA eligibility criterion nº 15.

Therefore it is AENOR opinion that VPA003 complies with the requirements of paragraph 2.5.1 of the GS Toolkit 2.2 to be eligible for a Gold Standard retroactive registration because it has been demonstrated through documented evidence the early consideration of carbon revenues.

In summary, it is AENOR’s opinion that the additionality of this VPA is sufficiently demonstrated based on the eligibility criteria of the PoA and the additionality criteria defined in GS.

### 3.5 Monitoring Plan

#### 3.5.1 Compliance of the monitoring plan with the approved methodology

The monitoring plan presented in the VPA-DD complies with the requirements of the applicable methodology. The assessment team has verified all parameters in the monitoring plan against the requirements of the methodology and no deviations have been found.

During the validation process AENOR has verified that the parameters to be monitored, according to the applied methodology under the proposed programme of activities, are consistent with the project description in the PoA-DD. In addition the VPA-DD clearly explains the quality control and quality assurance to apply for monitoring activities, including the metering equipment and calibration requirements.

Parameter	Monitoring frequency	Value applied
$U_{p,y}$ Cumulative usage rate for technologies in project scenario $p_1$ in year $y$ , based on cumulative adoption rate and drop-off rate (fraction)	Annual	100%
$N_{p,y}$ Cumulative number of project technology-days included in the project database for project scenario $p_1$ against baseline scenario $b$ in year $y$	Continuous	11,368

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Parameter	Monitoring frequency	Value applied
<b>N<sub>op,y</sub></b> Cumulative number of project technologies included in the project database for project scenario p <sub>1</sub> in year y	Continuous	11,368
<b>O<sub>p,y</sub></b> The average technology-days during which the biodigesters are operational for project scenario p <sub>1</sub> against baseline scenario b1 in year y	Continuous	365
<b>LE<sub>p,y</sub></b> Leakage in project scenario p <sub>1</sub> during year y	Not applicable	0
<b>N<sub>T,h</sub></b> Number of animals of livestock category T in premise h	Annually Once every two years	Dairy Cow: 8.0 Goat: 7.19 Market swine: 3.41 Sheep: 1.2 Other cattle: 0.00 Poultry: 20.44
<b>BB<sub>p1 bio</sub></b> Amount of woody biomass used in the project scenario p1, p2, p3.	Once every two years	2,170
<b>BB<sub>p1,fuel</sub></b> Projected amount of fossil fuels used in the project scenario p1 (Ex ante calculation only)	Once every two years	0
<b>BB<sub>b ratio</sub></b> Baseline scenario ratios	Annually	b1: households using firewood only = 78.5 % b2: household using charcoal only = 6.7 % b3: households using firewood + charcoal only = 14.8 %
<b>MS<sub>p,S,k</sub></b> Fraction of livestock category T's manure not treated in bio-digester, in climate region k (ex ante calculation only)	Annual	Dairy Cow: 30.1% Goat: 100% Market swine: 98% Sheep: 100% Other cattle: 88.6% Poultry: 99%
<b>MS<sub>T,S,k</sub></b> Fraction of livestock category T's manure fed into the bio-digester, S in climate region k	Annual	Dairy Cow: 69.9% Goat: 0% Market swine: 2% Sheep: 0% Other cattle: 11.4% Poultry: 1%

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Parameter	Monitoring frequency	Value applied
<b>GWP<sub>CH4</sub></b> Global Warming Potential of methane	Annual	25
<b>Bio</b> Use of bio-slurry	Annual	Not applicable, no effect on emission reductions
<b>GS-01 Air quality</b> Perceived improvement in health by the user. (incidence of eye problems and respiratory illness)	Annual	Not applicable, no effect on emission reductions
<b>GS-02 Soil condition</b> Percentage of biogas users who use slurry as a fertiliser	Annual	Not applicable, no effect on emission reductions
<b>GS-03 Quality of employment</b> Number of employees attending training programmes	Annual	Not applicable, no effect on emission reductions
<b>GS-04 Livelihood of the poor</b> Percentage of users reporting changes in expenditure on fuel for cooking	Annual	Not applicable, no effect on emission reductions
<b>GS-05 Access to affordable and clean energy services</b> Number of biogas units installed	Annual	Not applicable, no effect on emission reductions
<b>GS-06 Quantitative employment and income generation</b> Number of employees in the project	Annual	Not applicable, no effect on emission reductions
<b>GS-07 Technology transfer and technological self-reliance</b> Number of employees attending training programmes	Annual	Not applicable, no effect on emission reductions

AENOR; has verified that the monitoring plan for the VPA003 is in accordance with the requirements set forth in the respective methodology.

AENOR has reproduced the sample size calculation in order to validate the proposed sample size.

The sampling method to be applied will be the multi-stage sampling, where clusters consisted of geographical areas and subunits. Clusters will be selected with a probability proportionate to the size of the target population within each cluster such that larger clusters have a greater probability of selection, and smaller clusters a lower probability. This helps to ensure that sampling remains representative of the entire population.

The minimum total sample size is 100, with at least 30 samples for biogas digesters of each age bracket (measured in annual increments) being surveyed

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

The total sample size will be distributed along the municipalities of the regions proportional to the number of farms present in each municipality.

The sample size calculation is carried out in the emission reduction calculation spreadsheet. The result of the sample size using is shown in the following table:

- Group size <300: minimum sample size 30 or population size, whichever is smaller
- Group size 300 to 1000: minimum sample size 10% of group size
- Group size > 1000: minimum sample size 100

AENOR has validated that the Sampling Plan presented in the PoA-DD includes the objectives, data to be collected, target population, sampling frame, sample method, sample size, procedures for administering data collection and minimizing errors, and implementation details.

Therefore, AENOR by his experience and the assessment of the documentation considers:

- The sampling plan presents a reasonable approach for obtaining unbiased, reliable estimates of the variables. The monitoring will be carried out through a survey and the sample size will be selected following a requirements from the methodology, therefore the approach is considered correct.
- The sampling plan will ensure that samples are randomly selected and are representative of the population. The multi-stage sampling will be applied and the precision will be established in accordance with recommended values by GS.
- The population is clear from the Target Population description. The target population description will be the households/farms/communities in which the biogas digesters have been installed identified by the database of the CME, therefore AENOR considers the target population correct.
- The proposed sampling approach is clear. A multi-stage sampling will be applied the clusters consist in geographical areas and subunits. Sampling will be employed proportionate to cluster size, therefore AENOR considers that the sampling approach is clear.
- The sample is representative. A minimum sample size of 100 samples for a large population has been established. The data collection/measurement method is likely to provide reliable data. Training will be given to staff responsible for the data collection system and a quality control and assurance strategy plan will be established, therefore AENOR considers it correct.

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

- The procedures for the data measurements are well defined. As stated above a strategy plan will be established. This strategy includes a planning phase in which a clear definition of the target population, sampling frame and sample size are determined
- The frame contains the information necessary to implement the sampling approach. The parameters to be monitored within each VPA will depend on the methodology applied.

On the other hand, roles and responsibilities, training actions, archiving, measuring and calculation procedures, equipment details, and calibration requirements are clearly mentioned in the PoA-DD.

Therefore, in opinion of the AENOR team, all necessary parameters required by the selected approved methodology are contained in the monitoring plan. They are clearly described and comply with the requirements of the methodology. The monitoring of the parameters involved in the emission reductions has been established in a transparent and clear way. Thus, AENOR confirms the monitoring plan is in compliance with the requirements of the applied methodology, the *Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities* and the methodology.

#### **3.5.2 Implementation of the Monitoring Plan**

All parameters to be monitored have been included in the VPA-DD. The section details the information to be monitored regarding the data sources, recording frequency and storage material. The Monitoring Plan was then established in accordance with methodology and the related PoA.

Responsibility; Roles Monitoring Periods; Data Management System; QA/QC procedures to be applied have been described in the VPA-DD and they are in accordance with the PoA-DD. Validation team considers that the PP and Coordinating entity are able to implement the proposed monitoring plan.

#### **3.6 Comments by Local Stakeholders**

Local stakeholders' consultation is chosen to be done at VPA level.

In order to assess the adequacy of the local stakeholder consultation, during the on-site visit the AENOR team requested the PPs not only provide evidence about the consultation process, but also to hold interviews with the local stakeholders relevant for the project activity.

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Thus, during the on-site visit with PPs and stakeholders evidence was provided to the validation team of the consultation meetings.

Stakeholder consultations have been carried out in two stages, as per the Gold Standard guidelines. The first took place as a physical meeting on 14/12/2011 and the second stakeholder consultation was finalized on 11/03/2016, including the invitees to the first consultation round included in the VPA.

Via email, letter and telephone and newspaper announcements invited public participation in the meeting.

All attendees were handed out a hard copy of the project summary at the meeting. After the project sponsors explained the project and the process, the meeting was opened for comments, observations, and questions. Notes were taken during the meeting's commenting round. Some participants offered positive comments, recognizing the contribution of the Project to the region's sustainable development. In general the comments received were very positive and only a small fraction of respondents offered non-positive responses.

A summary of the content of the meeting and the minutes of them has been provided to the validation team through the VPA Local Stakeholder Consultation Report. Once all the documentary evidence were assessed by the audit team, AENOR confirmed that the most important stakeholders in Uganda attended the meeting held on 14/12/2011 and were informed in detail about all the aspects of the PoA and the current VPA. No negative opinion were raised by none of the stakeholders.

Since this VPA is retroactive, AENOR team considered that the best way to know the opinion of the stakeholders of the project was to held interviews directly with the users affected by the project activity in order to learn their opinions about the implementation of the project. During the on-site visit, AENOR visited and interviewed 16 householders located in the regions of Mukono, Jinja and Buikwe. The list of the stakeholder interviewed is detailed below:

<b>Name</b>	<b>Region</b>	<b>Village</b>
Gimei Francis	Mukono	Seeta
Wasswa Kalule John	Mukono	Seeta
Mary Nakitende	Mukono	Nsube Kauga

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Name	Region	Village
Rose Walakira	Mukono	Nsube Kauga
Norah Batuma	Mukono	Nsube Kauga
Mugwano Noah Salongo	Mukono	Nsube Kauga
Lubogo Isaac	Jinja	Namulesa
Nakityo Justine	Buikwe	Kiyindi
Mwambala Rita	Jinja	Budhumbuli East
David Ouma Balikowa	Jinja	Namulesa
Dr IJ Batwala	Jinja	Magamaga
Fuuwa m Fred	Jinja	Muguluka
Muyindike John	Jinja	Magamaga
Salongo Tezikyala David	Buikwe	Nyenga
Easter Masanso	Buikwe	Kiyindi
Nalwanga Deborah	Buikwe	Kiyindi

AENOR team could visit the biodigester plants installed in all the households and confirms that all of them were working properly. Furthermore AENOR interviewed all the householders listed above and a summary of the main topics discussed is included below:

- Project information: All the householders affirmed that they were properly informed about all the matters related to the project and the PoA (technical characteristics, financial issues, carbon revenues, etc).
- Voluntary participation: All the householders confirmed they voluntary participation in the project.
- Sales agreement: All the householders interviewed had a copy of the sales agreement signed with Biogas Solutions Uganda Ltd
- Training in the use of the plant: All the householders affirmed that they were trained in the way to feed the biodigester, and also the way to work with the kitchen installed.

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

- Benefits of the plant: All the householders said that their life had improved a lot since their biodigesters were installed. The main benefits reported were:
  - Air quality at home
  - No need to go to the forest to look for firewood.
  - No need to buy firewood/charcoal/fuel. Money savings.
  - Use of bioslurry in the garden.
- Incidents/downtimes: Two householders interviewed had some problems with the plant installed. Both contacted directly with the PP and the problems were solved in less than two weeks. Both problems were related to leakage due to construction fails.
- Grievance mechanism: All the stakeholders were aware about the book located at Biogas Solutions Uganda Ltd Plot 36 Luthuli Rise, Bugolobi, P.O.Box 8339, Kampala, Uganda. Furthermore they also knew the telephone number to call to report any complaint.
- General opinion: All the stakeholders interviewed affirmed that in general the biodigesters had helped and their standard of living and the quality of life have improved a lot thanks to the project.

By means of documents reviewed and the interviews performed, AENOR considers that the summary of the comments received during the consultation process, along with the PPs responses included in the VPA-DD is complete and the project is implemented according to the PoA and VPA procedures.

### **3.7 Environmental Impacts**

Environmental Analysis is chosen to be done at VPA level.

The impacts of biodigester systems are not expected to differ greatly between VPAs across Uganda, hence the impact of all VPAs will be similar.

Overall, the VPA's benefits will bring a positive impact on the environment. For instance the use of biogas systems will reduce air pollution, SO<sub>2</sub> and NO<sub>x</sub> emissions reduce deforestation and degradation and protection of water basins.

In accordance with the laws of Uganda this project activity does not require an Environmental Impact Assessment (EIA) to be carried out.

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

Therefore, in the opinion of AENOR, the Project will not have any significant impacts on the environment.

### **4 STAKEHOLDER FEEDBACK ROUND**

The Gold Standard process includes two rounds of stakeholder consultation. The second stakeholder consultation is the "Stakeholder Feedback Round" which was organized from 11<sup>th</sup> March to 11<sup>th</sup> May 2016. Stakeholders were invited to review the LSC Report, PDDs and Passports for the PoA and VPA. All stakeholders that were invited to the original LSC meeting were sent the invitation letter.

This second meeting was announced through email /38//39//40/, and other means and neither questions nor suggestions were made that would require changes in the Programme set-up, the sustainability matrix or any other document. No feedback was received from the Ugandan DNA.

AENOR confirms that all comments received were taken into account within the overall design of the VPA.

### **5 SUSTAINABILITY ASSESSMENT**

#### **5.1 Do no harm assessment**

The project participant has taken into account all the safeguarding principles mentioned in Annex H. The project participant has assessed all the risks and the risk of breaching any of the safeguarding principles is low in all the cases.

All the 11 safeguarding principles have been assessed and the explanations and references are provided for each principle to justify the evaluation of the degree of risk.

The following issues have been assessed by the validation team:

- Human rights: AENOR could verify during the on site visit that the project respects human rights, including dignity, cultural property and uniqueness of indigenous people. Furthermore AENOR varified that participation is completely voluntary and the project respects personal freedom and liberty of the people. AENOR confirms that the project is not complicit in Human Rights abuses.
- Involuntary resettlement: AENOR could verify during the on site visit that the domestic biogas units to be installed under the VPA are small size and are constructed within the confines of people's homesteads. AENOR confirms that the VPA does not involve any resettlement.
- Damage to cultural heritage: AENOR could verify during the on site visit that cultural heritage will not be altered by the biodigesters installed, since they are constructed

## VALIDATION REPORT

### "African Biogas Carbon Programme (ABC) – Uganda –VPA003"

within the household compounds normally in the gardens Therefore AENOR confirms that no damage to cultural or religious heritage is expected.

- Freedom of association: During the on site visit AENOR interviewed people (masons and surveyors) working with PP implementation partners and they confirmed that they have freedom of association and are not banned from collective bargaining.
- Absence of compulsory labour: During the on site visit AENOR interviewed people (masons and surveyors) working with PP implementation partners and they confirmed that they work on a voluntary basis and are free to quit at anytime.
- Child labour: During the on site visit AENOR did not find any evidence that could indicate that the VPA is employing or has ever employed children to be implemented. Furthermore, the Republic of Uganda ratified the "Convention on the Rights of the Child, New York, 20 November 1989". on 17 August 1990. The Republic of Uganda is also a member of the International Labour Organisation
- Discrimination: During the on site visit AENOR did not find any evidence related to any form of discrimination based on gender, race, religion, sexual orientation or any other basis. AENOR verified that people from different gender, race and religion are working within the VPA framework.
- Healthy work environment: AENOR confirms that this VPA involves installation of small domestic biogas units. The biogas systems require relatively simple construction and tools, with no need for scaffolding, the risk of accidents is minimised. AENOR verified the content of the training courses and during the on site visit asked the masons about the safety. AENOR confirmed that all the masons were properly trained and that the the risk of exposure to unsafe environment during the operation of the biogas units is also minimal.
- Environment: AENOR confirms that the VPA does not involve any invasive species, chemicals dangerous to the environment or hazardous waste. In fact, the biogas units installed utilise animal/ human excreta and food wastes. AENOR confirms that all the house holders interviewed during the on site visit used the resulting slurry as a fertiliser for the garden.
- Degradation of natural habitats: As it has been stated above, the digesters are installed within the households properties, and therefore, 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. Infact, AENOR

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

confirms that the project reduces deforestation and contribute to the protection of forestry, water and soil resources. The biogas is a renewable and clean energy source.

- Corruption: AENOR confirms that the project structures are not sensitive to corruption due to the nature of the project set up –working with a number of not-for profit organisations as implementing partners and the relatively low amount of money involved per biogas unit constructed.

AENOR confirms that there are no medium to high risk to any safeguarding principle, so there is no need for a mitigation measure to minimise the risk in the monitoring plan of the VPA GS Passport. Therefore, "Do no harm" assessment has been based on accurate information.

### **5.2 Monitoring of Do no harm assessment**

The VPA does not pose (medium/high) any risk of breaching any of the safeguarding principle and therefore no mitigation measure was required. The VPA implementation takes into account all the safeguarding principles mentioned in Annex H and all risk of breaching each of these principles is considerably low which was validated by the validation team during assessment.

## **6 SUSTAINABLE DEVELOPMENT MATRIX**

The CME has considered all the indicators mentioned in Annex I and other suitable indicators required in this case. The PoA involves the implementation biogas systems. The VPA has been indicated as scoring positive/neutral since clear environmental benefits are drawn. The VPA does not score any negative against the any of the indicator. Overall it can be summed up that the VPA has no negative impact /outcome and aids in sustainable development.

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Indicators	Validation option	Score	MDG Link
<b>Environment</b>			
Air quality	AENOR verified during the on site visit thatt the project 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 has improved significantly. All the householders interviewed affirmed that the project has improved the air quality at home.	+	5&7
Water quality and quantity	AENOR confirms that although the operation of a biogas unit requires a certain amount of water, to feed the digester together with cow dung (ratio 1:1), the project contributes to the protection of water resources through reduced deforestation.	0	7
Soil condition	AENOR confirms that the substitution of fuel wood with biogas indirectly contributes to a reduction in soil erosion by reducing deforestation. Furthermore AENOR verified that the slurry generated from biogas units was used as high value fertiliser.	+	7
Other pollutants	Not applicable	0	7
Biodiversity	AENOR confirms taht the project indirectly contributes to enhancement of biodiversity and nature conservation through reduction of pressure on natural habitats in Uganda resulting from deforestation by substitution of wood fuels with biogas.  However, since this contribution is indirect, AENOR considers that a neutral score is enough and appropriate for this indicartor.	0	7
<b>Sub total +2</b>			
<b>Social development</b>			

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Quality of employment	AENOR verified that the project has provided training programs to employees, helping them to acquire new technical skills and knowledge which can help to reduce poverty.	+	1
Livelihood of the poor	AENOR verified during the on site visit, by asking the householders, that they have a lower annual expenditure due to a reduced need to purchase non-renewable biomass and fossil fuels used for cooking and artificial fertilizers.	+	1
Access to affordable and clean energy services	AENOR confirms that thanks to 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.	+	1
Human and institutional capacity	Biogas raises awareness on clean energy and the harms of deforestation and environmental pollution. However, the project is not otherwise considered to have a significant impact on human and institutional capacity. AENOR considers that a neutral score is enough and appropriate for this indicator.	0	7
<b>Sub total +3</b>			
<b>Economic and technological development</b>			
Quantitative employment and income generation	AENOR verified during the on site visit that the project provides employment for local masons and supervisors with PP Implementing Partners and within supplier organizations. Installers are paid per commissioned biogas unit, which enables them to gain permanent and independent salaries. The increasing demand for biogas in Uganda creates job security for the masons.	+	1

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Balance of payments and investment	Micro credit and upfront financing with assistance of local banks and saving credit co-operations is possible. AENOR considers that a neutral score is enough and appropriate for this indicator.	0	1
Technology transfer and technological self-reliance	AENOR verified during the on site visit that the biogas units included under the domestic biogas PoA have all been adapted to Uganda. Biogas units are for example different from the ones installed in Kenya under the same PoA. The project therefore promotes technology transfer, which contributes to and enhances the local knowledge base. AENOR verified too that with the training provided by PP Implementation Partners and BCEs, local masons are able to construct a biogas unit themselves and train more independent masons on construction and maintenance.	+	9
<b>Sub total +2</b>			
<b>TOTAL</b>		<b>+7</b>	

AENOR confirms that all the indicators have been properly scored and the justifications stated in the Passport are correct and reliable according to the evidence verified on site by the assessment team. AENOR confirms that no mitigation measures are need for these 12 indicators and all of them are properly linked to MDG.

## 7 SUSTAINABILITY MONITORING PLAN

The CME has developed a credible and rational monitoring plan to assist the monitoring of the sustainability indicators. The parameters being monitored are as follows:

- Perceived improvement in health by the user (incidence of eye problems and respiratory illness)
- Percentage of biogas users who use slurry as a fertilizer
- Percentage of users reporting changes in expenditure on fuel for cooking.
- Number of masons attending training programmes
- Number of biogas units installed.
- Number of employees in the project

---

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

All the SD indicators to be monitored are provided in the table format in the GS Passport, and since all the scores are neutral or positive the use of mitigation measures is not included in the GS monitoring plan.

The GS passport shows all the parameters to be monitored to confirm the sustainable development.

AENOR confirms that the PP will monitor these parameters over the crediting period and on a recurrent basis to measure the impact of their Gold Standard project activity on these sustainable development indicators. The monitoring of sustainable development indicators will be verified for each verification period, as well as during each mandatory verification site-visit. 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'. (Version 1.0)

The monitoring process of every parameter is clearly explained in the VPA GS Passport. Hence the monitoring plan is plausible and verifiable if implemented as state in the Passport.

### **8 CONTINUOUS INPUT / GRIEVANCE MECHANISM**

In accordance with the Gold Standard toolkit 2.2 the project implementer is required to setup a mechanism for all the stakeholders wherein feedback/ complains can be received. In lieu of the requirement the project developer has implemented a feedback mechanism by introducing a Continuous Input / Grievance Expression Process Book Biogas Solutions Uganda office in Kampala. In addition to this, the book also includes the telephone number and email address of the VPA implementer. The mechanism was validated during the onsite assessment by the validation team and it was found in place and being practiced.

AENOR confirms that methods of grievance mechanisms was correctly communicated, as it is explained in VPA LSCR prepared by the PP, during the Local Stakeholder Consultation held on 14th December 2011. Furthermore AENOR confirmed that householders and stakeholders knew the existence of the book located at the Biogas Solutions Uganda office in Kampala and also the telephone numbers to call in order to express their comments or complaints about the project.

### **9 PRE FEASIBILITY ASSESSMENT**

The VPA being retroactive in nature required Pre feasibility Assessment by Gold Standard and can be taken for further assessment only if these queries are resolved satisfactorily as

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

mentioned in the Gold Standard toolkit version 2.2. The assessment of the PFA comments on the VPA is as follows:

Gold Standard Feedback	Assessment of the response and correction
The DOE shall assess the appropriateness of the VPA starting date (indicated as 15/11/2009) following the UNFCCC definition of project starting date.	AENOR has validated that the VPA start date is 11/11/2009 the date when the sales agreement of the first biodigester was signed. Evidence has been provided and the VPA-DD has been properly updated.
The starting date of the crediting period for VPA003 does not directly relates to PoA registration, PP shall please correct it to VPA inclusion accordingly.	<p>AENOR has validated the start date of the crediting period to be 01/04/2015 (estimated date) or 2 years prior to the end date of the inclusion review period, whichever is later.</p> <p>AENOR confirms that this date is in accordance with The Gold Standard's Annex F (V2.2) that states: "A VPA submitted for Gold Standard inclusion/ registration under the regular/ retroactive project cycle is potentially eligible to receive credits for realised emission reductions generated prior to Gold Standard inclusion/ registration for a maximum period of two years."</p>
The PP shall demonstrate crediting period years in a full year format. i.e. 01/06/2013 to 31/05/2014. Also, PP shall apply a realistic estimation for the start date.	AENOR confirms that the format used in the VPA-DD to describe the length of crediting period is the full year format. As it has been explained above, AENOR confirms that the estimate of the start date of the crediting period complies with the requirements stated in GS Annex F(v2.2).
The PP shall avoid using CPA instead of VPA in the LSC report and the VPA-Passport.	AENOR confirms that the VPA-DD, Passport and LCSR have been properly updated and the acronym "CPA" is not used anymore.
The PP shall correct VPA1 to VPA003 for the file name as well as description in the ER Spreadsheet: 'ER_calculation_Uganda_VPA1_31Mar2015'.	AENOR confirms that the file name and the description in the ER spreadsheet have been properly updated.

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

Gold Standard Feedback	Assessment of the response and correction
<p>The information from a previously carried out LSC (envisaged for a GS CDM activity) is being accepted by the GS Secretariat as well for this VPA in Uganda (GS4236) of the given GS PoA (GS2747) due to the following reasons:</p> <p>a. The LSC covers the African Biogas Programme, so the implementation framework, involved entities and roles/responsibilities are the same in the GS CDM and voluntary GS project.</p> <p>b. The LSC has been carried out at activity level</p> <p>c. At the time of request to GS (October 2013), the LSC had been carried out within the last 2 years (so falls within the 2 years of retroactive crediting)</p> <p>d. The stakeholders who were consulted fall under the African Biogas Program, so are the same stakeholders that fall under the voluntary programme.</p> <p>Nevertheless, GS might decide to request from the PP another live meeting for the SFR at the time of registration review depending amongst others upon DOE’s validation opinion related to LSC/SFR.</p>	<p>Due to the characteristics of the Programme, and taking into consideration the opinions from the local stakeholders interviewed during the on site assessment, AENOR validation team deems that all the GS creiteria for the Stakeholders have been correctly addressed by the CME.</p>
<p>The PP shall clarify why the PoA LSC report template has been used even though the LSC is deemed to have been carried out at activity level.</p>	<p>AENOR confirms that the correct LSCR template has been used.</p>
<p>The PP shall update section E.2. of the VPA passport regarding the stakeholder feedback round (SFR) once the SFR has taken place. This shall include amongst others information about how the feedback round was organized, list of the stakeholders invited, means of invitation, what the outcomes and feedbacks were and how the feedback was followed up by the CME. The DOE shall validate the SFR and its appropriateness against GS requirements.</p>	<p>AENOR validation team confirms that the SFR took place from 11/03/2016 to 11/05/2016. Section E.2 of the VPA Passport has been properly updated.</p> <p>Validation team has assessed how the SFR has been carried out. Validation team concludes that GS criteria regarding organization, list of the stakeholders invited, means of invitation, how the outcomes and feedbacks were and how the feedback was followed up by the CME have been met.</p>

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<b>Gold Standard Feedback</b>	<b>Assessment of the response and correction</b>
<p>One of the international GS NGO supporters (World Vision Australia) was not invited for the LSC. The PP shall ensure that World Vision Australia will be invited for the SFR.</p>	<p>World Vision Australia, has been specifically requested by email to indicate whether they wish to provide any comment. No answer has been received from WVA, and taking into consideration the characteristics of the Program, the comments received and the time between the email from the CME, AENOR validation team deems that the actions taken are enough to address this issue, since the Stakeholders consultation are clear, open and complete.</p>
<p>The PP shall provide a justification/explanation for each of those indicators which were scored neutral by the stakeholders in the blind SD matrix however were finally scored positive by the PP.</p>	<p>AENOR validation team has assessed the explanation given by the PP on how the differences were addressed are provided after the Blind SD matrix in the VPA LSCR. This explanation has been deemed correct and enough.</p>
<p>The means of proof evidencing the compliance with each of the eligibility criteria for the VPA shall be submitted to the DOE during the validation process and checked by the DOE.</p>	<p>AENOR validation team has studied the provided documentation and it has been proved that all the eligibility criteria have been addressed by the VPA and therefore it can be included in the PoA.</p>
<p>The CME shall clearly state in the PoA-DD as to how the prior consideration of retroactive VPAs shall be checked at the time of inclusion (POA is not yet registered). The PP shall credibly and transparently demonstrate that the VPA went ahead due to anticipated carbon revenues and that continuing and real actions were taken to secure the carbon status for the proposed project activity in parallel with its implementation (see Toolkit, 2.5.1). Respective evidences/supporting documentation shall be submitted to GS for the validation process. The DOE shall assess the aforementioned.</p>	<p>The registered GS PoA-DD already states how to check prior consideration of retroactive VPAs at the time of inclusion. AENOR validated the prior consideration for this VPA as it is explained in section 3.4 2) above.</p>
<p>The DOE shall validate the justifications demonstrating compliance with each methodology applicability criterion along with supporting documentation/ references.</p>	<p>AENOR validation team has studied the provided documentation and it has been proved that the VPA meets the aplicability criteria. This has been described in above sections of this validation report.</p>

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<b>Gold Standard Feedback</b>	<b>Assessment of the response and correction</b>
<p>The DOE shall check the climate zones in the Republic of Uganda and assess if the distinctions of the different climate zones (if more than one) have been considered.</p>	<p>The corresponding evidence was provided and the VPA-DD was updated to include the corresponding explanation. AENOR confirms that the climate zones in the Republic of Uganda have been properly considered by the PP.</p>
<p>The DOE shall carefully check the baseline KPT report und underlying data as well as assess if the application of a charcoal-to-biomass ratio of 10 is deemed to be appropriate.</p>	<p>AENOR confirms that the charcoal-to-biomass ratio of 8 finally included in the ERs is appropriate and conservative. It is extracted from the Biogas Survey report 2010. This figure is more conservative than the one used in VPA001 and VPA002.</p>
<p>The DOE shall validate the data source/assumption for the stove efficiency of 55% (mentioned on page 20 of the VPA-DD).</p>	<p>AENOR raised CL 5 in order to verify the data source/assumption for the stove efficiency of 55%. Evidence was provided and AENOR confirms that the stove efficiency used in the ERs calculation is appropriate.</p>
<p>The CME shall clearly state in the PoA-DD as to how the prior consideration of retroactive VPAs shall be checked at the time of inclusion. The PP shall credibly and transparently demonstrate that the VPA went ahead due to anticipated carbon revenues and that continuing and real actions were taken to secure the carbon status for the proposed project activity in parallel with its implementation (see Toolkit, 2.5.1). Respective evidences/supporting documentation shall be submitted to GS for the validation process. The DOE shall assess the aforementioned.</p>	<p>The registered GS PoA-DD already states how to check prior consideration of retroactive VPAs at the time of inclusion. AENOR validated the prior consideration for this VPA as it is explained in section 3.4 2) above.</p>
<p>The DOE shall validate the ER calculation (as per the ER calculation excel spreadsheet) including all input parameters at the time of validation.</p>	<p>AENOR validation team has studied the provided documentation and it has been proved that calculation of ER, capacities, etc are correct and in line with the methodology and GS criteria.</p>

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Gold Standard Feedback	Assessment of the response and correction
<p>The CME shall clarify why project emissions from animal waste not treated in the biodigester have not been considered in the ex-ante ER calculation of the VPA.</p>	<p>AENOR has validated that according to the registered PoA-DD, project emissions from animal waste not treated in the biodigester will be zero since they will have the same situation as they would have had in the baseline.</p> <p>This approach was also approved by GS for VPA001 in Kenya and VPA002 in Tanzania.</p>
<p>The PP shall explain why 'Baseline Biogas User Survey 2014, Kenya' is used for determining the <math>MS_{T,S,K}</math> and <math>MS_{P,S,K}</math>. Besides, The description of the parameter <math>MS_{T,S,K}</math> ('...manure fed into the bio-digester...') is not in line with the applied value (1%) in the VPADD and ER Spreadsheet. The PP shall correct accordingly.</p>	<p>AENOR validation team has studied the provided documentation and it has been proved that that the change has been correctly done.</p>
<p>Regarding parameter NT: The PP shall (as per the methodology) describe the system on monitoring the number of livestock population.</p>	<p>AENOR validation team has studied the provided documentation and it has been proved that that the change has been correctly done.</p>
<p>The PP shall mention the confidence/precision and minimum sample size, which will be followed for the KPTs determining the average fuel savings.</p>	<p>AENOR validation team has studied the provided documentation and it has been proved that 90/30 rule will and has been applied during the KPTs</p>
<p>The CME is requested to upload the cover letter (Annex S of GS v2.2) and Annex M for the VPA in question.</p>	<p>Cover letter has been provided and uploaded</p>

---

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

## 10 VALIDATION OPINION

The VPA titled "African Biogas Carbon Programme (ABC) – Uganda - VPA003", as described in the VPA-DD dated on 21/02/2017, meets the requirements to be included in the Programme of Activities "African Biogas Programme (ABC)" and correctly applies the baseline and monitoring methodology: Gold Standard's 'Technologies and practices to displace decentralized thermal energy' version 1.

AENOR thus requests the inclusion of the VPA titled "African Biogas Carbon Programme (ABC) – Uganda –VPA003" into the PoA "African Biogas Programme (ABC)". The total emission reductions from the project are estimated to be on the average **7,460 tCO<sub>2e</sub>** per year over the selected 7 years renewable crediting period. The emission reduction forecast has been checked, and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

03/03/2017



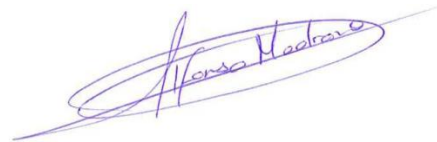
---

.....

José Magro

Authorized person

03/03/2017



---

.....

Alfonso Medrano

Team leader

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

**ANNEX 1 – FINDINGS LIST**

<b>CAR ID</b>	01	<b>Section no.</b>	A.3	<b>Date:</b> 05/07/2016
<b>Description of CAR</b>				
<b>The VPA –DD has not been prepared in accordance with the latest published template and guidance from the CDM Executive Board.</b>				
<b>Project participant response</b>				<b>Date:</b> 19/10/2016
VPA-DD has been updated to Version 5.0.				
<b>Documentation provided by project participant</b>				
VPA-DD Uganda 24Oct2016 V2.0				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
VPA-DD has been properly updated to the latest published template and guidance from the CDM Executive Board.				
<b>CAR01 is closed</b>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CAR ID</b>	02	<b>Section no.</b>	C.1	<b>Date:</b> 05/07/2016
<b>Description of CAR</b>				
<p><b>The Local Stakeholder Consultation was organized in accordance with the Gold Standard requirements, however the information about the stakeholder feedback round (SFR) has not been properly described in the LSCR.</b></p>				
<b>Project participant response</b>				<b>Date:</b> 19/10/2016
<p>Further details have been provided in the LSCR. However, no feedback was received during the stakeholder feedback round.</p>				
<b>Documentation provided by project participant</b>				
<p><i>LSCR Uganda 19Oct2016 V1.0</i></p>				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
<p>The LSCR has been properly updated to include the information related to the stakeholder feedback round (SFR).</p> <p><b>CAR02 is closed.</b></p>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CAR ID</b>	03	<b>Section no.</b>	D.6.2	<b>Date:</b> 05/07/2016
<b>Description of CAR</b>				
The list of parameters fixed ex ante is not complete according to the applied methodology and registered PoA-DD.				
<b>Project participant response</b>				<b>Date:</b> 16/10/2016
The list of parameters fixed ex-ante has been updated to be inline with the PoA-DD				
<b>Documentation provided by project participant</b>				
VPA-DD Uganda 24Oct2016 V2.0				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
The VPA-DD has been properly updated to include the complete list of fixed ex ante parameters.				
<b>CAR03 is solved.</b>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CAR ID</b>	04	<b>Section no.</b>	D.6.3	<b>Date:</b> 05/07/2016
<b>Description of CAR</b>				
<b>The figures applied in the ERs calculation spreadsheet for parameter <math>MS_{p,x,k}</math> are not consistent with the ones described in the VPA-DD</b>				
<b>Project participant response</b>				<b>Date:</b> 19/10/2016
Amended in the sheet PE to be inline with parameter $MS_{p,s,k}$ reported in the VPA-DD. The new values have been incorporated into the emission reduction calculation also.				
<b>Documentation provided by project participant</b>				
<i>ER calcs Uganda VPA 19Oct16 V1.0</i>				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
The ERs calculation spreadsheet has been properly updated to include the correct values for parameter $MS_{p,x,k}$ .				
<b>CAR04 is closed.</b>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CAR ID</b>	05	<b>Section no.</b>	D.6.3	<b>Date:</b> 05/07/2016
<b>Description of CAR</b>				
<p><b>The number of biodigesters installed in the project and described in the VPA-DD and ERs calculation spreadsheet is not consistent with the number of biodigesters stated in the project database</b></p>				
<b>Project participant response</b>				<b>Date:</b> 19/10/2016
<p>Values in the ERs calculation spreadsheet have been corrected. The number of digesters installed from mid 2016 onwards are estimates only, and are likely to change depending on the course of implementation.</p> <p>The emissions calculations in the VPA-DD have also been updated.</p>				
<b>Documentation provided by project participant</b>				
<i>ER calcs Uganda VPA 2Jan2017; Database 2Jan2017; VPA-DD Uganda 2Jan2017</i>				
<b>DOE assessment</b>				<b>Date:</b> 17/01/2017
<p>The number of biodigesters in the project database is consistent with the latest version of the VPA-DD and its annexed ERs spreadsheet.</p> <p><b>CAR5 is solved.</b></p>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CAR ID</b>	06	<b>Section no.</b>	D.7.1	<b>Date:</b> 05/07/2016
<b>Description of CAR</b>				
<p><b>The list of parameters to be monitored is not complete according to the methodology and the registered PoA-DD.</b></p>				
<b>Project participant response</b>				<b>Date:</b> 24/10/2016
<p>The list of monitored parameters has been updated to be in-line with the registered PoA-DD.</p> <p>The leakage parameter has been updated as the VPA-DD demonstrates that all sources of leakage risks are deemed very low. The Gold Standard confirmed this approach in their email dated 20 October 2016.</p>				
<b>Documentation provided by project participant</b>				
<p><i>GS Confirmation Leakage October 2016; VPA-DD Uganda 24Oct2016 V2.0</i></p>				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
<p>The VPA-DD has been properly updated to include the complete list of parameters to be monitored.</p> <p><b>CAR06 is solved.</b></p>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CL ID</b>	01	<b>Section no.</b>	D.2	<b>Date:</b> 05/07/2016
<b>Description of CL</b>				
<p><b>The methodology: 'Technologies and practices to displace decentralized thermal energy' (Version 1.0) (11/04/2011) is applied in the PoA-DD registered. Please clarify why version 2.0 of the methodology has been applied to the current VPA.</b></p>				
<b>Project participant response</b>				<b>Date:</b> 24/10/2016
<p>This error has been amended. Version 1.0 of the methodology should be applied.</p>				
<b>Documentation provided by project participant</b>				
<p><i>VPA-DD Uganda 24Oct2016 V2.0</i>  <i>ER calcs Uganda VPA 19Oct16 V1.0</i></p>				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
<p>The correct version of the methodology has been stated in the VPA-DD.  <b>CL1 is closed.</b></p>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CL ID</b>	02	<b>Section no.</b>	D.5	<b>Date:</b> 05/07/2016
<b>Description of CL</b>				
<p><b>A Declaration from Biogas Solutions Uganda Ltd confirming that it does not double-count any of its appliances for the ERs estimation shall be provided to the DOE team.</b></p>				
<b>Project participant response</b>				<b>Date:</b> 03/11/2016
<p>A Declaration from Biogas Solutions Uganda Ltd has been provided, please see the documentation below.</p>				
<b>Documentation provided by project participant</b>				
<p><i>20161021 BSUL declaration no double counting</i></p>				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
<p>The corresponding evidence has been provided.</p> <p><b>CL02 is closed.</b></p>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CL ID</b>	03	<b>Section no.</b>	D.5	<b>Date:</b> 05/07/2016
<b>Description of CL</b>				
Evidence to demonstrate the start date of the VPA shall be provided to the DOE team.				
<b>Project participant response</b>				<b>Date:</b> 02/01/2017
The Sales Agreement for the first digester to be included in the VPA (BSU/46) is shared. Please see also the Project Database.				
<b>Documentation provided by project participant</b>				
<i>Sales Agreement BSU-46</i> <i>Database 2Jan2017</i> <i>Sales Agreement BSU-46</i> <i>Database 2Jan2017</i> <i>VPA-DD 2Jan2017</i> <i>ER calcs 2Jan2017</i>				
<b>DOE assessment</b>				<b>Date:</b> 17/01/2017
Evidence of the start date of the project has been provided. AENOR confirms that the start date of the project is 11/11/2009.				
<b>CL3 is closed.</b>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>CL ID</b>	04	<b>Section no.</b>	D.5	<b>Date:</b> 05/07/2016
<b>Description of CL</b>				
<p><b>Evidence of the Sales Agreement signed by the householders shall be provided to the DOE team in order to verify that the end user of each biogas digester has agreed to transfer all rights to any carbon credits to the VPA Implementer.</b></p>				
<b>Project participant response</b>				<b>Date:</b> 24/10/2016
<p>Scanned copies of Sales Agreements are provided as examples. These include a declaration transferring all rights to carbon credits to BSUL.</p>				
<b>Documentation provided by project participant</b>				
<p><i>Sales Agreement BSU 46</i>  <i>Sales Agreement BSU 480</i>  <i>Sales Agreement BSU 02132</i>  <i>Sales Agreement BSU 3001</i>  <i>Sales Agreement BSU 03053</i>  <i>Sales Agreement BSU04382</i>  <i>Sales Agreement BSU1 03906</i></p>				
<b>DOE assessment</b>				<b>Date:</b> 19/12/2016
<p>Evidence has been provided and deemed to be appropriate.</p> <p><b>CL04 is closed.</b></p>				

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>FAR ID</b>	01	<b>Section no.</b>	D.6.3	<b>Date:</b> 22/02/2017
<b>Description of FAR</b>				
Monitoring surveys to determine the corresponding baseline scenarios, baseline KPTs and project KPTs to determine the fuel consumption values shall be carried out prior to the 1 <sup>st</sup> verification process.				
<b>Project participant response</b>				<b>Date:</b> DD/MM/YYYY
<b>Documentation provided by project participant</b>				
<b>DOE assessment</b>				<b>Date:</b> DD/MM/YYYY

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

## 11 REFERENCES

Ref	Document Name	Author/Competent Authority
1	GS African Biogas Carbon Programme (ABC) PoA-DD	GS
2	IPCC Guidelines for National Greenhouse Gas Inventories (00) Chapter 0, Emissions from	PP
3	Specific Instruction for Validation, Verification and Certification of Clean Development Mechanism (CDM) Project Activities (IE-DTC-0)0	AENOR
4	Gold Standard Energy Requirements 2.2	GS
5	Gold Standard Toolkit 2.2	GS
6	Cover Letter Hivos ABC Uganda	PP
7	Puxin JZZ2-A13 Efficiency.	PP
8	SNV Lotus III Efficiency Page 43	PP
9	Xunda JZZ.2-A1 Efficiency	PP
11	Xunda JZZ2-88 Efficiency	PP
12	Wusi JZZ.2A1 stove manual Efficiency	PP
13	UNDP Uganda Climate Zones	PP
14	UDBP Baseline_final Survey Report 2010	PP
15	UpEnergy (2014) Monitoring_Report	PP
16	Uganda National Biogas Programme Implementation Plan_1-1	PP
17	Programme_implementation_uganda_2010	PP
18	UDBP-BUS HPI_Final-Report-15082011	PP
19	ABPP construction per month 2010-2013	PP
20	ABPP construction statistics 2014	PP
21	GS Email Confirmation Baseline Scenarios 24Sep2015	PP
22	GS Email Confirmation of Proxy Data use	PP
23	LSC Report for ACES-UDBP-CPA2 -v7	PP

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>Ref</b>	<b>Document Name</b>	<b>Author/Competent Authority</b>
24	Operation Manual of Biogas plants	PP
25	Biogas Operation and Maintenance Poster	PP
26	User operation and maintenance manual	PP
27	Training Officers certificates	PP
28	Training Outline for the Supervisors MUZARDI from 27th to 28th	PP
29	Training report, June 2012	PP
30	Training report, March 2013	PP
31	ODA decl Hivos GS4236 ABC Uganda	PP
32	ODA decl BSU GS4236	PP
34	ERSPA BSUL-Hivos	PP
35	GS4236 Cover Letter ( Annex S ) signed	PP
36	GOLD STANDARD STAKEHOLDER FEEDBACK ROUND FOR THE UGANDA DOMESTIC BIOGAS PROGRAMME	PP
37	REMINDER GOLD STANDARD STAKEHOLDER FEEDBACK ROUND FOR THE UGANDA DOMESTIC BIOGAS PROGRAMME	PP
38	SFR Confirmed receipts	PP
39	SFR Emails no longer in use	PP
40	SFR Re-Directed Emails	PP
41	20161021 BSUL declaration no double counting	PP
42	GS Confirmation Leakage October 2016	PP
43	Database 2Jan2017	PP
44	ER calcs Uganda VPA 2Jan2017	PP
45	Sales Agreement BSU 46	PP
46	Sales Agreement BSU 480	PP
47	Sales Agreement BSU 02132	PP
48	Sales Agreement BSU 3001	PP

---

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

---

<b>Ref</b>	<b>Document Name</b>	<b>Author/Competent Authority</b>
49	Sales Agreement BSU 03053	PP
50	Sales Agreement BSU 04382	PP
51	Sales Agreement BSU1 03906	PP
52	Kenya Biogas Survey 2014	PP

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

## ANNEX 1: GS VALIDATION PROTOCOL

VALIDATION PROTOCOL for VPA:

"African Biogas Carbon Programme (ABC) – Uganda  
–VPA003)"

FROM PoA:

"African Biogas Carbon Programme (ABC)"

PROJECT PARTICIPANT:

Hivos

Validation Type	
<input checked="" type="checkbox"/> Validation of a Project Activity from a Program of Activities	
Validation Team:	
Alfonso Medrano Gutierrez (Team leader)	
Luis Javier Arribas Alonso (Validator)	
Version of this Validation Protocol: 03	Date: 22/02/2017

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

**REQUIREMENTS FOR GOLD STANDARD- VERSION 2.2**

CHECKLIST TOPIC / QUESTION	MoV/Ref.*	COMMENTS	Draft Conclusion	Final Conclusion
<b>A. GENERAL DESCRIPTION OF CDM PROGRAMME ACTIVITY</b>				
<b>A.1. Approval</b>				
A.1.1 Have all the Parties involved in the GS Programme Activity provided a written Letter of Approval of the GS Programme Activity?	DR I	N/A	N/A	N/A
A.1.2 Do the Letters of Approval confirm that: <ul style="list-style-type: none"> <li>• The Party is a Party to the Kyoto Protocol</li> <li>• The participation is voluntary</li> <li>• The GS Programme Activity contribute to the sustainable development (host Party)</li> <li>• The title of the GS Programme Activity is precise and coincides with the title included in the VPA-DD?</li> </ul>	DR I	N/A	N/A	N/A

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

A.1.3 Has the Letter of Approval be obtained from the project participants or directly from the DNA? In case that it has been obtained from the project participant, how has been assessed its authenticity?	DR I	N/A.	N/A	N/A
A.1.4 Has the Cover Letter (Annex S) been signed and uploaded to the GS Registry?	DR I	The Cover letter has been provided and it is properly completed and signed.	OK	OK
<b>A.2. Project participants</b>				
A.2.1. Is the form of required for the indication of project participants correctly applied in the VPA-DD?	DR I	Project participants correctly applied in the VPA-DD are clearly described in the VPA DD	OK	OK
A.2.2. Which Parties and VPA implementers are participating in the VPA? Are all host parties included in the VPA-DD?	DR	The coordinating or Managing Entity of the SSC-PoA is HIVOS and Biogas Solutions Uganda Ltd is responsible of the VPA. The host party, Republic of Uganda, has been included in the VPA-DD.	OK	OK
A.2.3. Is the participation of all project participants approved by a Party to the Kyoto Protocol?	DR I	N/A	N/A	N/A
A.2.4. Is all information on participants / Parties provided in consistency with details provided by further chapters of the VPA-DD (in particular annex 1)?	DR I	Yes, all the information on participants is consistent with the information provided	OK	OK

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<p>A.2.5. Does the VPA-DD include name/contact details of the entity/individual responsible for the operation of the VPA?</p> <p><i>In case of stationary VPA, geographic reference please describe this entity/individual responsible for the VPAs and steps taken to verify the information.</i></p>	DR	The contact information of entity/ individual responsible for the small scale VPA is described in the VPA-DD.	OK	OK
<b>A.3. VPA Design Document</b>				
<p>A.3.1. Does the used project title clearly enable to identify the unique GS Programme Activity? Is it consistent in all section of the VPA-DD and in all documents?</p>	DR	Yes, the title is "African Biogas Carbon Programme (ABC) – Uganda - VPA003". The title is consistent in the entire document.	OK	OK
<p>A.3.2. Is there any indication concerning the version number and the date of the version?</p>	DR	<p>Yes, there are indications concerning the version number and the date of the version.</p> <ul style="list-style-type: none"> <li>• Version: 2.2</li> <li>• Date: 02/02/2017</li> </ul>	OK	OK
<p>A.3.3. Is this consistent with the time line of the project's history?</p>	DR	Yes, documents and dates are consistent.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<p>A.3.4. Is the VPA-DD prepared in accordance with the latest template and requirements from the CDM Executive Board?</p>	<p>DR</p>	<p>The format of the VPA-DD used is CDM SSC-VPA-DD version 03.0          The latest version of the form is 05.0.  <b>CAR 1: The VPA –DD has not been prepared in accordance with the latest published template and guidance from the CDM Executive Board (version 05.0).</b>          VPA-DD has been properly updated to the latest published template and guidance from the CDM Executive Board.  <b>CAR01 is closed</b></p>	<p><b>CAR1</b></p>	<p>OK</p>
<p>A.3.5. Has the VPA-DD published for Global Stakeholder Consultation (GSC) in UNFCCC website? (if it is applicable)</p>	<p>DR</p>	<p>N/A.</p>	<p>N/A.</p>	<p>N/A.</p>
<p>A.3.6. Have there been any comments during the GSC process? (if it is applicable)</p>	<p>DR</p>	<p>N/A.</p>	<p>N/A.</p>	<p>N/A.</p>
<p>A.3.7. Have them correctly addressed by the validation team? (if it is applicable)</p>	<p>DR</p>	<p>N/A.</p>	<p>N/A.</p>	<p>N/A.</p>

### A.4. Description of the Programme Activity

The VPA-DD (section A.2) shall contain a clear description of the GS Programme Activity that provides the reader with a clear understanding of the precise nature of the GS Programme Activity.

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

A.4.1. Is the description delivering a transparent overview of the VPA Programme activity?	DR I	An overview of the VPA is described in the VPA-DD. The description included in the VPA DD is transparent.	OK	OK
A.4.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	DR I	For the biogas system to be installed in households and small dairy farms there is no need permit from the ministries. Documented evidence of the construction and operation of the Bio digesters have been provided to the validation team.	OK	OK
A.4.3. Is the information provided by these proofs consistent with the information provided by the VPA-DD?	DR I	Yes it is.	OK	OK
A.4.4. Has the validation team conducted a physical site inspection to confirm the description of the VPA-DD? If not, justify.	I	Yes, the validation team conducted a physical site inspection to confirm the description of the VPA-DD from June 27 <sup>th</sup> to July 1 <sup>st</sup> 2016.	OK	OK
<b>A.5. Technical description of the GS Programme Activity</b> The VPA-DD (section A.4) shall contain a clear description of the GS Programme Activity that provides the reader a clear understanding of the technical aspects of its implementation.				
<i>A.5.1. Location of the GS Programme Activity</i>				
A.5.1.1. Does the VPA-DD include means of unique identification of a VPA?	DR I	Yes, the location of the VPA is clearly indicated in the VPA-DD.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

A.5.1.2. Has it been demonstrated that the VPA is within the geographical borders of the PoA?	DR	The GS Programme Activity is implemented within the geographical boundary of Kenya, Tanzania and Uganda. VPA003 is implemented in Uganada considering all applicable national / sectoral policies and regulations of that country.	OK	OK
A.5.1.3. How is it ensured and/or demonstrated that the project proponents can implement the VPA at this site (ownership, licenses, contracts etc.)?	DR I	Evidence had been provided to demonstrate the ownership of the GS Programme Activity. Conctracts, and agreements have been assessed and deemed as appropriate by the validation team.	OK	OK
<i>A.5.2. Category of the GS Programme Activity</i>				
A.5.2.1. Does the project qualify as a small scale GS Programme Activity as defined in paragraph 6 (c) of decision 3/CMP.1 on the modalities and procedures for the CDM?	DR	Yes, the the project qualify as a small scale GS Programme Activity as defined in paragraph 6 (c) of decision 3/CMP.1 on the modalities and procedures for the CDM.	OK	OK
A.5.2.2. In the case of a small scale GS Programme Activity, is it justified that it is not a debundled component of a larger GS Programme Activity?	DR	<p><i>As per the requirements: If each of the independent subsystems/measures (e.g. biogas digester, solar home system) included in the VPA of a PoA is no greater than 1% of the small scale thresholds defined by the methodology applied, then that VPA of PoA is exempted from performing de-bundling check i.e. considered as not being a debundled component of a large scale activity.</i></p> <p>Calculation showing that the biogas systems are less than 1% of the SSC threshold has been included in the ERs calculation and deemed to be appropriate.</p>	OK	OK

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p>A.5.2.3. Does the VPA-DD include provisions for a confirmation that the VPA is neither registered as a CDM project activity nor included in another registered PoA?</p> <p><i>Make sure that each single subsystem of the VPA, e.g., solar cooker, bio-digester, etc. is not registered as part of a CDM project or included in another registered PoA. Make sure that no double counting of any emission reductions will occur.</i></p>	<p>DR</p>	<p>Yes, the VPA-DD transparently justifies that the VPA has not been either registered as a single CDM project activity or as a VPA under another PoA.</p> <p>This issue has been crosschecked against the UNFCCC website.</p>	<p>OK</p>	<p>OK</p>
<p><b>A.5.3. Technology to be employed by the GS Programme Activity</b></p>				
<p>A.5.3.1. Does the description of the technology to be applied provide sufficient and transparent input/information to evaluate its impact on the greenhouse gas balance? And, is the explanation how the project will reduce greenhouse gas emission transparent and suitable?</p>	<p>DR I</p>	<p>Yes it does.</p>	<p>OK</p>	<p>OK</p>
<p>A.5.3.2. Have provisions regarding to the training and maintenance needs established in the POA complied?</p>	<p>DR</p>	<p>Provisions for meeting training needs are included in the VPA-DD and evidence has been also provided to the DOE team</p>	<p>OK</p>	<p>OK</p>

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

A.5.3.3. Is a schedule available for the implementation of the project and are there any risks for delays? Is the schedule consistent with the starting date of the crediting period?	DR	Yes a schedule is available for the implementation of the project.	OK	OK
<i>A.5.4. Estimated amount of emission reductions over the chosen crediting period</i>				
A.5.4.1. Is the form required for the indication of projected emission reductions correctly applied?	DR	The correct form has been applied.	OK	OK
A.5.4.2. Are the figures provided consistent with other data presented in the VPA-DD?	DR	Figures for emission reduction are consistent along the VPA.	OK	OK
<i>A.5.5. Public funding of the GS Programme Activity</i>				
A.5.5.1. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance?	DR I	The Directorate General for International Cooperation (DGIS) under the Netherlands Ministry of Foreign Affairs provides public funding. The VPA is being supported by DGIS through the Humanist Institute for Cooperation with Developing Countries (Hivos). There has been no diversion of Official Development Assistance (ODA) as demonstrated in the declarations provided as evidence.	OK	OK
A.5.5.2. Is all information provided consistent with the details given in remaining chapters of the VPA-DD	DR	Yes, the information provided is consistent.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

### B. BASELINE AND MONITORING METHODOLOGY

#### B.1. Title and reference of the approved baseline and monitoring methodology

<p>B.1.1. Are reference number, version number, and title of the approved baseline and monitoring methodology clearly indicated?</p>	<p>DR</p>	<p>Yes, the reference number, version number and title of the approved methodologies are clearly indicated in the PDD.  The methodology applied is: 'Technologies and practices to displace decentralized thermal energy' (Version 2.0)</p>	<p>OK</p>	<p>OK</p>
<p>B.1.2. Is the selected small scale baseline methodology in the VPA the latest version approved in the last version of the POA?</p>	<p>DR</p>	<p><b>CL1: The methodology: 'Technologies and practices to displace decentralized thermal energy' (Version 1.0) (11/04/2011) is applied in the PoA-DD registered. Please clarify why version 2.0 of the methodology has been applied to the current VPA.</b>  The correct version of the methodology has been stated in the VPA-DD.  <b>CL1 is closed.</b></p>	<p><b>CL1</b></p>	<p>OK</p>
<p>B.1.3. Does the VPA-DD refer to the corresponding tools with their latest approved versions?</p>	<p>DR</p>	<p>The VPA-DD does not apply any tool.</p>	<p>N/A</p>	<p>N/A</p>

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<b>B.2. Eligibility of the GS Programme Activity to be included in the POA</b>												
B.2.1. Are the chosen tools considered applicable in accordance with the design of the GS programme activity and the provisions of the applied methodology and POA?	DR	The VPA-DD does not apply any tool.	N/A	N/A								
B.2.2. Does the VPA-DD include information on how it fulfills the eligibility criteria specified in the POA-DD?	DR	Yes, the VPA-DD include information on how it fulfills the eligibility criteria specified in the POA-DD	OK	OK								
Fill in the required amount of sub checklists for applicability criteria as given by the POA applied and comment at least every line answered with “No”												
B.2.3. Criterion 1: All biogas systems included in the VPA will demonstrate they fall within the geographical boundary of the PoA through: <ul style="list-style-type: none"> <li>- Recording the address/location of the system in the Sales Agreement</li> <li>- Recording the GPS coordinates of the systems (not relevant for retroactive digesters)</li> <li>- Physically attaching a Programme or VPA logo to the digester which identifies it as being part of the African Biogas Partnership Programme on a national scale.</li> </ul>	DR	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	OK	OK
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p>B.2.4. Criterion 2:                  The VPA shall demonstrate that it does not double-count any of its appliances for the ERs estimation by confirming that:</p> <ul style="list-style-type: none"> <li>- The complete address of each biogas system will be recorded</li> <li>- The biogas systems have unique serial numbers (not relevant for the retroactive digesters)</li> <li>- The VPA implementer has not included these biogas systems in another VPA or carbon project.</li> </ul>	DR	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Applicability checklist</th> <th style="width: 30%;">Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Evidence provided?</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Compliance verified?</td> <td style="text-align: center;">Yes</td> </tr> </tbody> </table> <p><b>CL2: A Declaration from Biogas Solutions Uganda Ltd confirming that it does not double-count any of its appliances for the ERs estimation shall be provided to the DOE team.</b></p> <p>The corresponding evidence has been provided.</p> <p><b>CL02 is closed.</b></p>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<b>CL2</b>	OK
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
<p>B.2.5. Criterion 3: The biogas systems disseminated are renewable energy generation units to provide thermal energy and will be required to conform to any applicable national standards.</p>	DR	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Applicability checklist</th> <th style="width: 30%;">Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Evidence provided?</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>Compliance verified?</td> <td style="text-align: center;">Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	OK	OK
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p>B.2.6. Criterion 4: The VPA implementer will demonstrate the start date of the VPA is on or after the start date of the PoA. The start date of the VPA will be defined as the date on which the first Sales Agreement is signed under the VPA.</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table> <p><b>CL3: Evidence to demonstrate the start date of the VPA shall be provided to the DOE team.</b></p> <p>Evidence of the start date of the project has been provided. AENOR confirms that the start date of the project is 11/11/2009.</p> <p><b>CL3 is closed.</b></p>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p><b>CL3</b></p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
<p>B.2.7. Criterion 5: The VPA complies with the baseline and monitoring methodology requirements of the ‘Technologies and Practices to Displace Decentralised Thermal Energy Consumption’ (version 1.0). and should meet its eligibility criteria as discussed in Section B.2 of the PoA-DD.</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p>OK</p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<p>B.2.8. Criterion 6: The VPA will prove additionality as per the following approach:</p> <p>1) Positive List</p> <p>1. Biogas system rated capacity is less than 2.25MW<sub>th</sub> each</p> <p>2. Biogas systems are disseminated to households or communities or Small and Medium Enterprises (SMEs).</p>	DR	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>		Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	OK	OK
		Applicability checklist	Yes/No										
		Criterion discussed in the VPA-DD?	Yes										
		Evidence provided?	Yes										
Compliance verified?	Yes												

VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<p>B.2.9. Criterion 7:</p> <p>1. The VPA, organised a local stakeholder consultation (LSC) in accordance with Gold Standard requirements</p> <p>2. The VPA, or a group of VPAs, got environmental clearance for the project related activities, if applicable</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td><b>CAR3</b></td> </tr> </tbody> </table> <p><b>CAR2: The Local Stakeholder Consultation was organized in accordance with the Gold Standard requirements, however the information about the stakeholder feedback round (SFR) has not been properly described in the LSCR.</b></p> <p>The LSCR has been properly updated to include the information related to the stakeholder feedback round (SFR).</p> <p><b>CAR02 is closed.</b></p>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	<b>CAR3</b>	<p><b>CAR2</b></p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	<b>CAR3</b>											

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p>B.2.11. Criterion 8. The VPA will demonstrate that any Official Development Assistance received for the VPA has not occurred on the condition that the resulting credits are transferred to the donor country</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p>OK</p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
<p>B.2.12. Criterion 9: The VPA will demonstrate which target group(s) is/are to be targeted by the VPA and the distribution mechanism. Target groups shall include Households</p> <ul style="list-style-type: none"> <li>- Small/Medium Enterprises</li> <li>- Communities</li> </ul>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p>OK</p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
<p>B.2.13. Criterion 10: The VPA Implementer will agree to support the sampling and survey activities of CME in accordance with B.7.2 of the PoA-DD.</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p>OK</p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p>B.2.14. Criterion 11: The VPA Implementer will ensure that each VPA remains below the small scale limits. Each VPA in aggregate will remain below 15 MW (45MW<sub>th</sub>).</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p>OK</p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
<p>B.2.15. Criterion 12: The VPA implementer will demonstrate that the VPA is not a de-bundled component via the following approach: 1. The biogas systems are less than 1% of the SSC threshold (as per paragraph 10 EB54 Annex 13)</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p>OK</p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
<p>B.2.16. Criterion 13: The VPA implementer will provide sufficient evidence of training or qualification to implement the proposed VPA.</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p>OK</p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p>B.2.17. Criterion 14: The end user of each biogas digester has agreed to transfer all rights to any carbon credits to the VPA Implementer</p>	<p>DR</p>	<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes/No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the VPA-DD?</td> <td>Yes</td> </tr> <tr> <td>Evidence provided?</td> <td>Yes</td> </tr> <tr> <td>Compliance verified?</td> <td>Yes</td> </tr> </tbody> </table> <p><b>CL4: Evidence of the Sales Agreement signed by the householders shall be provided to the DOE team in order to verify that the end user of each biogas digester has agreed to transfer all rights to any carbon credits to the VPA Implementer.</b></p> <p>Evidence has been provided and deemed to be appropriate.</p> <p><b>CL04 is closed.</b></p>	Applicability checklist	Yes/No	Criterion discussed in the VPA-DD?	Yes	Evidence provided?	Yes	Compliance verified?	Yes	<p><b>CL4</b></p>	<p>OK</p>
Applicability checklist	Yes/No											
Criterion discussed in the VPA-DD?	Yes											
Evidence provided?	Yes											
Compliance verified?	Yes											
<p><b>B.3. Description of the VPA Boundary</b></p>												
<p>B.3.1 Are all the sources and gases included in the project boundary of the GS Programme Activity (baseline scenario, project scenario and leakage) in accordance with the applied methodology and with provisions stated in the POA?</p>	<p>DR I</p>	<p>The VPA-DD details the gases and sources included in the SSC-VPA boundary.</p>	<p>OK</p>	<p>OK</p>								

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

B.3.2. Are the inclusion or exclusion of the sources of gases correctly justified?	DR	The inclusion and exclusions included in Section B.4 is in accordance with the applied methodology.	OK	OK
B.3.3. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the VPA-DD?	DR I	The spatial and technological boundaries complied with the ones verified on site.	OK	OK
<b>B.4. Description of the baseline scenario identification (if applicable)</b>				
B.4.1. Is the application of the baseline methodology and the discussion and determination of the chosen baseline transparent and conservative and established according to the related POA?	DR	The method used to calculate the baseline is established according to the methodology Technologies and Practices to Displace Decentralised Thermal Energy Consumption’ (version 1.0) and the referred POA.	OK	OK
<b>B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered GS Programme Activity (assessment and demonstration of additionality):</b>				
B.5.1. Is the VPA additionality assessed according to the provisions stated in the POA?	DR	The VPA additionality is assessed according to the provisions stated in the POA.	OK	OK
B.5.2. In the case of a small scale GS Programme Activity, is the additionality justified according to the applicable GS requirements specific for small scale project activities?	DR	Yes, the additionality justified according to the applicable GS requirements specific for small scale project activities.	OK	OK

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

B.5.3. Does type of information provided for the VPA to ensure the adequate demonstration of additionality in accordance with provisions stated in the referred POA?	DR	Yes, the type of information provided for the VPA to ensure the adequate demonstration of additionality is in accordance with provisions stated in the referred POA.	OK	OK
B.5.4. Is the additionality of the VPA demonstrated?	DR	Yes, it is demonstrated.	OK	OK
B.5.5. Does the VPA include provisions to provide a financial analysis to demonstrate that without CDM revenue the VPA is not a financially attractive option?	DR	N/A.	N/A	N/A
B.5.6.. Does the VPA include provisions for a barrier analysis to demonstrate that the project activity faces significant barriers that are overcome through the CDM?	DR	N/A.	N/A	N/A
B.5.7. Does the VPA-DD include provisions to demonstrate that there are essential differences between the VPA and similar activities that are occurring (common practice analysis)?	DR	N/A	N/A	N/A
B.5.8. Is sufficient evidence provided to support the relevance of the arguments made?	DR	Yes, it is.	<b>CL1</b>	OK
<b>B.6. Emissions reductions</b>				

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Does the VPA-DD include calculations of baseline emissions and estimated emission reductions according to specified information in the POA-DD?	DR I	Yes, the VPA-DD include calculations of baseline emissions and estimated emission reductions according to specified information in the POA-DD.	OK	OK
B.6.1.2. Is the calculation of baseline emissions, project emissions and leakage emissions of the VPA in accordance with the procedure described in the PoA-DD?	DR	Yes the ER calculation of the VPA is according to the procedure described in the PoA-DD	OK	OK
B.6.1.3. Are VPA-specific conservative assumptions used and uncertainties addressed when calculating the baseline emissions, project emissions and leakage emissions	DR	Yes, specific conservative assumptions are used and uncertainties addressed when calculating the baseline emissions, project emissions and leakage emissions.	OK	OK
<i>B.6.2. Data and parameters that are available at validation</i>				
B.6.2.1. Is the list of parameters presented considered to be complete with regard to the requirements of the applied methodology? Is all the information required for each parameter included?	DR	<p><b>CAR3: The list of parameters fixed ex ante is not complete according to the applied methodology and registered PoA-DD.</b></p> <p>The VPA-DD has been properly updated to include the complete list of fixed ex ante parameters.</p> <p><b>CAR03 is solved.</b></p>	<b>CAR3</b>	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

B.6.2.2. Are all the data derived from official data sources or replicable records and have been correctly quoted?	DR	Yes, data derived from official data sources have been correctly quoted.	OK	OK
<p><b>B.6.3 Calculation of GHG Emission Reductions – Baseline Emissions</b></p> <p><i>It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i></p>				
B.6.3.1 Are the calculations documented according to the approved methodology and in a complete and transparent manner?	DR	Yes, calculations are documented according to the approved methodology and in a complete and transparent manner.  <b>FAR1: Monitoring surveys to determine the corresponding baseline scenarios, baseline KPTs and project KPTs to determine the fuel consumption values shall be carried out prior to the 1<sup>st</sup> verification process.</b>	<b>FAR1</b>	-
B.6.3.2. Have conservative assumptions been used when calculating the baseline emissions?	DR	Yes, conservative assumptions been used when calculating the baseline emissions	OK	OK
B.6.3.3 Are uncertainties in the baseline emission estimates properly addressed?	DR	Yes, they are properly addressed.	OK	OK
B.6.3.4. Is additional background information on baseline data provided in the VPA-DD? Is this information consistent with data presented by other sections of the VPA-DD?	DR	Yes, additional background information on baseline data is provided in Annex 3 of the VPA-DD. This information is consistent with data presented by other sections of the VPA-DD	OK	OK

VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p><i>B.6.4 Calculation of GHG Emission Reductions – Project Emissions</i></p> <p><i>It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i></p>				
<p>B.6.4.1 Are the calculations documented according to the approved methodology and in a complete and transparent manner?</p>	<p>DR I</p>	<p><b>CAR4: The figures applied in the ERs calculation spreadsheet for parameter <math>MS_{p,x,k}</math> are not consistent with the ones described in the VPA-DD.</b></p> <p>The ERs calculation spreadsheet has been properly updated to include the correct values for parameter <math>MS_{p,x,k}</math>.</p> <p><b>CAR04 is closed.</b></p> <p><b>CAR5: The number of biodigesters installed in the project and described in the VPA-DD and ERs calculation spreadsheet is not consistent with the number of biodigesters stated in the project database.</b></p> <p>The number of biodigesters in the project database is consistent with the latest version of the VPA-DD and its annexed ERs spreadsheet.</p> <p><b>CAR5 is solved.</b></p>	<p><b>CAR4, CAR5</b></p>	<p>OK</p>
<p>B.6.4.2. Have conservative assumptions been used when calculating the project emissions?</p>	<p>DR I</p>	<p>Yes, conservative assumptions have been used when calculating the project emissions.</p>	<p><b>CL5, CL6, CL7</b></p>	<p>OK</p>

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

B.6.4.3 Are uncertainties in the project emission estimates properly addressed?	DR I	Yes, uncertainties in the project emission estimates are properly addressed.	<b>CL5, CL6, CL7</b>	OK
<b>B.6.5. Calculation of GHG Emission Reductions – Leakage</b>				
<i>It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>				
B.6.5.1 Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	DR	The leakage calculations are documented according to the approved methodology and in a complete and transparent manner	OK	OK
B.6.5.2. Have conservative assumptions been used when calculating the leakage emissions?	DR	Yes, conservative assumptions have been used when calculating the project emissions	Ok	OK
B.6.5.3. Are uncertainties in the leakage emission estimates properly addressed?	DR	Yes, uncertainties in the project emission estimates are properly addressed.	OK	OK
<b>B.6.6. Ex-ante calculation of emission reductions</b>				
B.6.6.1. Are the GHG calculations documented in a complete and transparent manner? Are all the calculations correct?	DR	The GHG calculations are documented in a complete and transparent manner	<b>CAR4</b>	OK
B.6.6.2. Is the data provided in this section consistent with data as presented in other chapters of the VPA-DD?	DR	Yes, data provided in this section is consistent with data as presented in other chapters of the VPA-DD.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<i>B.6.7. Summary of the ex-ante estimation of emission reductions</i>				
B.6.7.1. Will the project result in fewer GHG emissions than the baseline scenario?	DR	The project results in fewer GHG emissions than the baseline scenario	<b>CAR4</b>	OK
B.6.7.2. Are the emissions reductions projected in line with the envisioned time schedule for the project' implementation and the indicated crediting period?	DR	Yes, the emissions reductions projected in line with the envisioned time schedule for the project' implementation and the indicated crediting period	OK	OK
<b>B.7. Application of the monitoring methodology and description of the monitoring plan</b>				
<i>B.7.1. Description of the monitoring plan</i>				
B.7.1.1 Is the monitoring plan of the VPA documented according to the approved methodology, in accordance with the programme of activities and in a complete and transparent manner?	DR I	Yes the monitoring plan of the VPA is documented according to the approved methodology, in accordance with the programme of activities and in a complete and transparent manner	OK	OK
B.7.1.2. Does the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further information provided in the VPA-DD?	DR	Yes the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further information provided in the VPA-DD	OK	OK
B.7.1.3. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	DR I	N/A	N/A	N/A

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

B.7.1.5. Does the VPA-DD include provisions that all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this programme, whichever occurs later?	DR I	Yes, the VPA-DD includes provisions that all monitored data required for verification and issuance be kept for 5 years after the end of the crediting period or the last issuance of CERs.	OK	OK
<i>B.7.2 Compliance of the monitoring plan with the approved methodology and provisions stated in the POA</i>				
B.7.2.1 Is the list of parameters considered to be complete with regard to the requirements of the applied methodology and the referred POA? Are all of them clearly described in the monitoring plan and in accordance with the methodology, tools and POA?	DR I	<p><b>CAR6: The list of parameters to be monitored is not complete according to the methodology and the registered PoA-DD.</b></p> <p>The VPA-DD has been properly updated to include the complete list of parameters to be monitored.</p> <p><b>CAR06 is solved.</b></p>	<b>CAR6</b>	OK
B.7.2.2. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the VPA boundary during the crediting period?	DR I	Yes, the monitoring plan provides for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the VPA boundary during the crediting period.	OK	OK
<i>B.7.3 Implementation of the Monitoring Plan</i>				
B.7.3.1 Do the means of monitoring of each of the parameters included in the plan complies with the requirements of the methodology?	DR I	Yes they do.	OK	OK

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

B.7.3.2. Is the measurement equipment described and deemed appropriate?	DR	The main parameters to be monitored are monitored by sampling.	OK	OK
B.7.3.3. Are procedures identified for maintenance of monitoring equipment and installations? Are provisions regarding the calibration intervals included in the monitoring plan?	DR I	The main parameters to be monitored are monitored by sampling.	OK	OK
B.7.3.4. Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements or lack of data?	DR I	Yes, the monitoring plan of the POA-DD includes procedures in case of errors or problems.	OK	OK
B.7.3.5. Is the monitoring Plan sufficient to ensure the verification of a proper implementation of the monitoring plan?	DR I	Yes it is.	OK	OK
B.7.3.6. Are there provisions to ensure that those operating the VPA are aware and have agreed that their activity is being subscribed to the PoA?	DR I	As it is stated in the POA-DD, the project implementer of a VPA shall enter into a contractual arrangement with the coordinating entity including provisions regarding this issue.	OK	OK

### **C. DURATION OF THE GS PROGRAMME ACTIVITY / CREDITING PERIOD**

#### **C.1. Duration of the GS Programme Activity**

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<p>C.1.1. Does the VPA include provisions that the start date can be clearly defined and evidenced? <i>Apply the definition as per the "Glossary of CDM terms".</i></p>	DR	<p>Yes, the VPA clearly identifies the start date of the project. Evidence has been provided.</p>	<b>CL3</b>	OK
<p>C.1.2. Does the GS-VPA-DD include a confirmation that the start date is not, or will not be, prior to the PoA validation commencement, i.e. the date on which the GS POA-DD is first published for global stakeholder consultation?</p>	DR	<p><b>To be assessed when CL3 is solved.</b> The starting date of this VPA is 11/11/2009, the date of the first Sales Agreement signed for the first digester to be included under this VPA. Retroactive inclusion is pursued.</p>	<b>CL3</b>	OK
<p>C.1.3. Does the VPA include provisions to ensure that the operational lifetime can be clearly defined and evidenced? <i>Check whether the project lifetime can be clearly defined. Consider the guidance on the assessment of investment analysis (annex to the additionality tool). Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	DR	<p>The operational lifetime of the VPA has been stated as 30 years.</p>	OK	OK
<p><b>C.2. Choice of the crediting period and related information</b></p>				
<p>C.2.1. Does the GS-VPA-DD address the starting date of the crediting period of the VPA?</p>	DR	<p>The start date of the crediting period is on 01/04/2015 (estimated date) or 2 years prior to the end date of the inclusion review period, whichever is later.</p>	OK	OK

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

<p>C.2.2. Does the GS-VPA-DD include the option to choose the type (fixed or renewable) and duration of the crediting period of the VPA?</p> <p>Taking into account that the duration of the crediting period shall not exceed the end date of the PoA?</p>	<p>DR</p>	<p>Yes, the option chosen has been a renewable crediting period of 7 years.</p>	<p>OK</p>	<p>OK</p>
<p><b>D. ENVIRONMENTAL IMPACTS</b></p>				
<p><b>D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts</b></p>				
<p>D.1.1. Has the analysis of the environmental impacts of the GS Programme Activity been sufficiently described in the VPA-DD?</p>	<p>DR I</p>	<p>The analysis of the environmental impacts of the Programme Activity has been sufficiently described in the VPA-DD.</p> <p>The biogas system does not require an EIA.</p>	<p>OK</p>	<p>OK</p>
<p>D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?</p>	<p>DR I</p>	<p>The analysis of the environmental impacts of the Programme Activity has been sufficiently described in the VPA-DD.</p> <p>The biogas system does not require an EIA.</p>	<p>OK</p>	<p>OK</p>
<p>D.1.3. Will the project create any adverse environmental effects? Has any environmental impact identified as significant?</p>	<p>DR I</p>	<p>No adverse environmental effects are foreseen.</p> <p>The programme’s benefits will bring a positive impact on the environment.</p>	<p>OK</p>	<p>OK</p>

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

D.1.4. Are transboundary environmental impacts identified in the analysis?	DR I	No transboundary environmental impacts are identified	OK	OK
<b>D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party.</b>				
D.2.1. Have the identified environmental impacts been addressed in the VPA-DD sufficiently?	DR I	Yes the environmental impacts have been addressed in the VPA-DD sufficiently.	OK	OK
D.2.2. Does the project comply with any other environmental legislation in the host country?	DR I	The biogas system does not require an EIA.	OK	OK
<b>E. STAKEHOLDERS' COMMENTS</b>				
<b>E.1. Brief description how comments by local stakeholders have been invited and compiled</b>				
E.1.1. Have relevant stakeholders been consulted? Is the exact date of the consultation process included in the VPA-DD	DR I	The stakeholder comments are invited at the VPA level and the information is included in the VPA-DD.  It was confirmed through the evidence provided that the main stakeholders were consulted during a meeting held on 14th December 2011. Information and documents regarding that consultation have been provided to the validation team.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

E.1.2. Have appropriate media been used to invite comments by local stakeholders?	DR I	The media used to invite local communities were by email, letter and telephone. Evidence has been provided and media used are considered appropriate. Invitations were distributed to specific stakeholders via e-mail and a public invitation was advertised in the national newspaper the Daily News on 05/12/2011.	OK	OK
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	I	The Gold Standard Local Stakeholder Consultation Report provides a detailed description of the consultation and the results.	OK	OK
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	DR	Yes, the process of consultations is transparent described in the VPA-DD.	OK	OK
<b>E.2. Summary of the comments received</b>				
E.2.1. Is a summary of the stakeholder comments received provided?	DR	Yes, a summary of the stakeholder comments has been included in the VPA-DD.	OK	OK
<b>E.3. Report on how due account was taken of any comments received</b>				
E.3.1. Has due account been taken of any stakeholder comments received?	DR I	Yes. The comments were taken into account.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

Is all necessary information consistent between POA-DD and the VPA-DD?	DR	Yes, all necessary information is consistent between POA-DD and the VPA-DD	OK	OK
<b>F - SUSTAINABILITY ASSESSMENT</b>				
F.1. Is the "Do no harm" assessment done filling the table of the GS Toolkit? If the risk of any safeguarding principle has been classified as medium to high, have mitigation measurements been proposed?	DR I	The do not harm assessment has been completed and the risk of safeguarding principles have been classified as low.	OK	OK
F.2 Is the sustainable development assessment done using Sustainable Development Assessment Matrix.	DR I	Yes, the sustainable Development matrix has been used.	OK	OK
F.3 Are the scoring results transparent and reproducible.	DR I	Yes the scoring results transparent and reproducible	OK	OK
F.4 Are there any negative scores, a non-positive total score and a negative sub-total score.	DR I	There were no potential harmful effects mentioned concerning the VPA	OK	OK
F.5 Are mitigation measures planned for scores of -1.	DR I	Due to "non-positive scores" have not been identified, mitigation measures are not planned.	OK	OK
F.6 Has the sustainability assessment been completed together with the stakeholders?	DR	Yes. The comments of the stakeholders have been taken into account for the sustainability assessment.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

<b>G - E.I.A REQUIREMENTS</b>				
G.1 Is there a Host Country requirement for E.I.A for type of project	DR	Biogas VPA does not require EIA in accordance with the environmental regulation in Uganda	OK	OK
<b>H - PUBLIC CONSULTATION REQUIREMENTS</b>				
H.1 Are the two consultations round conducted?	DR I	Yes, two consultation rounds have been conducted.	OK	OK
H.6 Check if the following issues have been conducted in the stakeholder consultation: - A invitation tracking table has been filled out - Copies of invitation published are available - A non-technical summary has been included in the LSC. - A participant list is present - Stakeholder evaluation are available - Minutes of the meetings are available. - Comments accepted and received by email were actually considered.	DR I	The following issues have been conducted in the LSR: - A invitation tracking table has been filled out - Copies of invitation published are available - A non-technical summary has been included in the LSC. - A participant list is present - Stakeholder evaluation are available - Minutes of the meetings are available. - Comments accepted and received by email were actually considered.	OK	OK
H.7 For the stakeholder feedback round:	DR	Yes, the information was made publicly available.	OK	OK

## VALIDATION REPORT

“African Biogas Carbon Programme (ABC) – Uganda –VPA003”

Does the following information been publicly available for a period of two months? -PDD -A non-technical summary of the project. -All relevant supporting information	I			
H.8 Have the following issues regarding the stakeholder feedback round included in the passport? - A description of the procedure followed to invite comments - All written or oral comments received - Argumentation on whether or not comments are taken into account in the project design.	DR I	Yes, the issues regarding the stakeholder feedback round are included in the passport	OK	OK
H.2 Is the overall process of stakeholder consultation found to be transparent.	DR I	Yes, the process of stakeholder consultation was found to be transparent	OK	OK
H.3 Has letter been sent to DNA for project note?	DR	The DNA has been properly informed.	OK	OK
H.4 Are Gold Standard supporting NGO´s and Gold Standard included in consultation process?	DR	Relevant international non-governmental organisations (NGOs) supporting the Gold Standard with representation in the East African region and all GS supporter NGOs located in the region were also invited to the meeting.	OK	OK

## VALIDATION REPORT

"African Biogas Carbon Programme (ABC) – Uganda –VPA003"

H.5 Are concerns raised about environmental impacts?	DR	No there are not.	OK	OK
H.2 Is the overall process of stakeholder consultation found to be transparent.	DR I	Yes it is.	OK	OK
<b>I - SUSTAINABILITY MONITORING PLAN</b>				
I.1 All the non-neutral indicators are monitored?	DR	Yes. all positive indicators have been included in the sustainability monitoring plan.	OK	OK
I.2 Are chosen parameters relevant to the indicators?	DR	The parameters chosen are relevant for the indicators.	OK	OK
I.3 In the sustainability monitoring plan unambiguous about who will monitor with what frequency?	DR	The responsibility of the monitor parameters and the frequency of monitoring	OK	OK
I.1 Does the project activity fulfill with the specific requirements of Gold Standard?	DR	Yes, all the non-neutral indicators are planned to be monitored.	OK	OK
<b>J. PRE- FEASIBILITY ASSESSMENT GS</b>				
J.1 Does the report of pre-feasibility assessment of GS require any other GS information?	DR	Comments from PFS have been included in the VPA DD	OK	OK

MoV/Ref: Means of Validation and references of background documents