



Project Implementation Report

(1 July 2021 – 30 June 2022)

Project Title:	Promoting organic waste-to-energy and other low carbon technologies in small, medium and micro enterprises (SMMEs) scale: Accelerating biogas market development in South Africa
GEF ID:	5704
UNIDO ID:	130310
GEF Replenishment Cycle:	GEF-5
Country(ies):	South Africa
Region:	AFR - Africa
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs¹:	-
Stand-alone / Child Project:	Stand-alone
Implementing Department/Division:	ENE / CTI
Co-Implementing Agency:	
Executing Agency(ies):	Department of Forestry, Fisheries and Environment
Project Type:	Full-Sized Project (FSP)
Project Duration:	48 months
Extension(s):	3
GEF Project Financing:	USD 4,222,110
Agency Fee:	USD 401,100
Co-financing Amount:	USD 41,884.888
Date of CEO Endorsement/Approval:	1/14/2016
UNIDO Approval Date:	11/17/2015
Actual Implementation Start:	3/17/2016
Cumulative disbursement as of 30 June 2022:	3,643,542
Mid-term Review (MTR) Date:	7/1/2019
Original Project Completion Date:	3/17/2020
Project Completion Date as reported in FY21:	10/31/2022
Current SAP Completion Date:	10/31/2022

¹ Only for GEF-6 projects, if applicable

Expected Project Completion Date:	7/31/2023
Expected Terminal Evaluation (TE) Date:	8/30/2023
Expected Financial Closure Date:	9/29/2023
UNIDO Project Manager²:	Mr. Alois Mhlanga

I. Brief description of project and status overview

Project Objective
The project aims to transform the market for using organic waste from agriculture and agro-processing industries for energy production in SMMEs. It aims to achieve this through triggering investment in waste-to energy biogas projects in SMMEs, through technology demonstration, improving data and knowledge products, capacity building and by strengthening the policy and regulatory environment. Setting up the market environment that allows and catalyses the use and replication of such technologies will lead to significant GHG emission reductions and contribute towards South Africa's transformation towards low carbon development.

Baseline
<p>The use of anaerobic digestion (AD) / biogas for treating agro-processing waste has a large potential in South Africa but its use is still very limited. More generally biological Waste to Energy (WtE) technologies in SA focus on methane gas extraction from landfills and water treatment facilities. Only a few municipalities in SA generate electricity from landfill gas processes with larger metropolitan municipalities including Johannesburg, Durban, Tshwane, eThekweni and Ekurhuleni being at different stages of planning, constructing and implementing these WtE projects. Most large AD projects installed to date are based at wastewater treatment works and/or use sewage and organic municipal solid waste (MSW). This includes two electricity generation projects in Johannesburg: one 1.1 MW project and one 750 kW project, and a number of projects in the Western Cape. Six WtE projects have registered with UNFCCC as CDM projects. This includes three landfill gas projects, one industrial wastewater project and two agro- processing projects. Since 2011 the National Energy Regulator of South Africa (NERSA) has registered 92 biogas plants most of which are household or community scale bio-gas operations in rural areas consisting of a fixed dome plant producing bio-gas to supply heating appliances in peri-urban and rural dwellings in KwaZulu-Natal, Limpopo and Gauteng. There are a few commercial biogas units installed at piggeries, an abattoir, dairy and beef-lot, breweries and juice processing. The majority of these would still be classified as small, at below 250 kW. The largest is the 4.2 MW Bio2Watt plant currently being commissioned in Gauteng using manure from a large beef feedlot.</p> <p>Most of the projects use the gas for electricity and/or heat generation for their own use although some of the piggeries just flare the gas. Connection and sale to the grid is not currently possible under 1 MW so the majority of projects are unable to sell power. Generally, there are few - if any - other examples of co-digestion and no examples of a centralized plant taking waste from a number of different organizations/sources. This summary demonstrates that although there are some bio-gas units using agro-processing waste or animal waste/manure, the majority of these projects are very small (household or school size), with only a handful of medium (250kW- 1MW) to large-scale (more than 1MW) projects, despite the large potential. Compared to this potential, very few projects have been developed. In addition, in most projects the full potential of the bio-gas plant is not realized with only gas or heat being generated (not both), gas for transport not being investigated and the digestate not being valued.</p>

Please refer to the explanatory note at the end of the document and select corresponding ratings for the current reporting period, i.e. FY22. Please also provide a short justification for the selected ratings for FY22.

² Person responsible for report content

In view of the GEF Secretariat's intent to start following the ability of projects to adopt the concept of adaptive management³, Agencies are expected to closely monitor changes that occur from year to year and demonstrate that they are not simply implementing plans but modifying them in response to developments and circumstances or understanding. In order to facilitate with this assessment, please introduce the ratings as reported in the previous reporting cycle, i.e. FY21, in the last column.

Overall Ratings ⁴	FY22	FY21
Global Environmental Objectives (GEOs) / Development Objectives (DOs) Rating	<i>Satisfactory (S)</i>	<i>Satisfactory (S)</i>
Relevant outputs of the Project have either been completed or are contracted and expected to yield results to meet the GEO and DO objectives. When complete the Project will have exceeded both the emissions reduction and energy production targets.		
Implementation Progress (IP) Rating	<i>Satisfactory (S)</i>	<i>Satisfactory (S)</i>
Bearing in mind the disruptions caused by the COVID-19 Pandemic and the extensions implemented, there were cost escalations and issues of warranty/guarantee to be either re-negotiated or factored into the cost structure post-COVID-19 restrictions. As much as was possible was actually implemented during the period of closure. All things considered; the Project has progressed satisfactorily on outputs within its control. Provisions will have to be made for elements of the outputs that are outside the control of the Project such as cost escalations on budgets to be met from co-financing by the investors.		
Overall Risk Rating	<i>Moderate Risk (M)</i>	<i>Moderate Risk (M)</i>
The risk rating for FY22 has remained the same as for FY21 as the remedial activities have not yet been fully implemented. Significant reduction in the COVID-19 related risk has prompted the implemented of the recommended mitigation. Equally, the diagnosis of caused for the low turnout of mature projects in the project pipeline has prompted remedial activities (prefeasibility/feasibility studies) and recommendations for mitigation to be implemented.		

II. Targeted results and progress to-date

Please describe the progress made in achieving the outputs against key performance indicator's targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Please fill in the below table or make a reference to any supporting documents that may be submitted as annexes to this report.

Outputs by Project Component	KPIs/Indicators	Target level	Progress-to-date
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³ Adaptive management in the context of an intentional approach to decision-making and adjustments in response to new available information, evidence gathered from monitoring, evaluation or research, and experience acquired from implementation, to ensure that the goals of the activity are being reached efficiently

⁴ Please refer to the explanatory note at the end of the document and assure that the indicated ratings correspond to the narrative of the report

Component 1: Capacity building and technology support system established

Outcome 1: Support systems and knowledge products

Output 1.1: Detailed assessment and characterization of waste streams from agro-processing SMMEs conducted	<ul style="list-style-type: none"> - No. of waste streams characterised - National waste characterisation database developed 	<ul style="list-style-type: none"> - 30 wastes characterised - Database developed and updated 	Characterization of waste-streams is in progress – 80% to completion
Output 1.2: Capacity of biogas support and low-carbon technologies support centre strengthened	<ul style="list-style-type: none"> - No. of full-time staff - Up to date website 	<ul style="list-style-type: none"> - 1.5 full time staff members - Up to date website 	Capacity building services rendered to Biogas Association equivalent to 1.5 full-time staff – 95% complete
Output 1.3 Biogas guidelines and decision support tools for integrated biogas systems in agro-processing SMMEs are developed and disseminated	<ul style="list-style-type: none"> - Biogas guidelines developed - No. of downloads of document 	<ul style="list-style-type: none"> - 1 set of biogas guidelines developed - >200 downloads 	Biogas Guidebook, Biogas Decision-Making Tool, Biogas Operators' Manual completed – Awaiting final editing for publication – 95% to completion.
Output 1.4: Government Officials and technicians in biogas technology trained	<ul style="list-style-type: none"> - SETA accredited HH biogas training available 	<ul style="list-style-type: none"> - 2 SETA accredited HH biogas training courses available 	Biogas awareness consultations completed; Training materials drafted; SETA accreditation pending – 90% to completion.
	<ul style="list-style-type: none"> - No. of youth trained in HH biogas 	<ul style="list-style-type: none"> - 50 	Training of youth completed.
	<ul style="list-style-type: none"> - % of female trainees 	<ul style="list-style-type: none"> - 30% 	Based on selection of trainees, 30% female achieved.
	<ul style="list-style-type: none"> - No. of household digesters built as part of training 	<ul style="list-style-type: none"> - 30 	Households selected, training and construction of digesters achieved – 85% to completion.
	<ul style="list-style-type: none"> - No. of SAQA accredited biogas technician courses 	<ul style="list-style-type: none"> - 1 SAQA accredited course available at SARETEC and satellites 	Development of a SAQA accredited course initiated through National Biogas Platform – pending approval of the course outline – 90% to completion.
	<ul style="list-style-type: none"> - No. short (1 week) biogas courses developed 	<ul style="list-style-type: none"> - 3 short biogas courses developed 	Short courses being developed on a thematic basis – Standards, Digestate use, and Domestic digesters – 80% to completion.

	- No. of biogas training sessions for Government Officials	- 2 training sessions on biogas for Government officials	Course training materials under development – 90% to completion.
	- No. of trained Government Officials	- 10 trained staff	Training of government officials completed for Limpopo Province and planned for National in August 2022. An additional 30 trainees targeted over the initial 10 targeted. A total of 40 to be trained, i.e., 400% increase. Approximately 50% to completion.
	- % of female trained Government Officials	- 30%	15% female trained Government officials
	- No. of biogas training sessions for MCEP/NCPC staff	- 2 training sessions on biogas for MCEP/ NCPC staff	MCEP no longer active; NCPC now has its own in-house biogas training capability.
	- No. of trained MCEP/NCPC staff	- 20 trained staff	N/A
	- % of female trained MCEP/NCPC staff	- 30%	N/A
	- No. of digestate use training sessions	- 5	Output 2.2 modified to only produce policy briefs, and not training materials.
	- No. of trained personnel in digestate use	- 100	N/A
	- % of female trainees	- 30%	
Output 1.5: Targeted training workshops (10) for market players (project developers, enterprise executives, farmers and operators, current users of waste) on integrated biogas systems conducted	- No. of training workshops for market players	- Ten (10)	10 training sessions complete.
	- No. of market players trained	- 200	100% - complete.
	- % of female trainees	- 30%	Over 40% achieved.
Output 1.6: Two regional training workshops conducted to train experts from SADC counties	- No. of regional biogas workshops	- 2 regional training workshops	Target changed to one training workshop only. One regional training workshop achieved.

on biogas technologies in SMMEs			
Component 2: Biogas market development and regulatory			
Outcome 2: Market environment for biogas strengthened and regulatory framework for grid-connected small to medium scale waste-to-energy projects developed			
Output 2.1: 1 Quality standards for integrated biogas plants in SMMEs developed, adopted and widely disseminated	- No. of quality standards for biogas	- Two S.A standards for biogas projects adopted by SABS	Two standards drafted and submitted to SABS for approval. 90% to completion.
	- Integration of the standards within PER R719	- Integration of the standards within PER R719	Pending approval of the standards. 60% to completion.
	- SETA certified training materials for the standards	- SETA certified training materials for two standards	Pending approval of the standards. 80% to completion.
	- Training modules designed	- Training modules of the two standards	Pending approval of standards. 85% to completion.
Output 2.2: Guidelines and regulations (environmental, technical and legal) on the valorisation of digestate and effluent developed and adopted	- Characterisation of effluent and digestate from different biogas feedstocks	- Characterisation of effluent and digestate from at least 180 different biogas feedstocks	New service provider appointed. Feedstocks narrowed to 7 out of which 5 best performing to be further studied. 75% to completion.
	- Testing of effluent use on crops and record results	- Testing carried out over two agricultural seasons and data recorded	New service provider appointed. 75% to completion.
	- Guidelines on use of digester effluent and digestate	- Guidelines issued on use of digester effluent and digestate	New service provider appointed. 80% to completion.
	- Inclusion of digestate in the Draft Norms and Standards for the manufacture and applicability of organic compost	- Inclusion of digestate in the Draft Norms and Standards for the manufacture and applicability of organic compost	New service provider appointed. 95% complete.
Output 2.3: Biogas licence process streamlined	- Norms and standards developed for biogas at DEA	- 1 set of norms and standards for biogas	This work was achieved by other institutions, no work needs to be supported under the Project.

Output 2.4: Regulatory framework on access to the grid by small to medium scale biogas projects developed	- Regulatory framework developed for < 1MW biogas projects	- Clear policy and regulatory framework on grid connection < 1MW	This work was achieved by other institutions, no work needs to be supported under the Project.
- Component 3: Technology demonstration			
- Outcome 3: Technical feasibility and commercial viability of waste-to-energy technologies demonstrated			
Output 3.1: Detailed feasibility studies of selected demonstration projects are conducted	- No. of bankable feasibility studies completed	- 5	5 projects identified and contracted. Feasibility studies were a prerequisite for selection; therefore no feasibility studies were supported under this output.
Output 3.2: Five (5) integrated biogas demonstration projects implemented to achieve at least 3MW installed capacity	- Number of biogas projects implemented with support from GEF	- 5 projects implemented with direct support from GEF	16 projects identified – 5 were initially contracted of which 3 are still currently contracted; two completed and commissioned; one is 95% complete; and one is due for completion in September 2022
	- Number of systems providing bio-CNG	- 2 bio-CNG projects developed	One bio-CNG plant to be completed in September 2022
	- Installed capacity of new organic waste to energy projects (MW)	- Installed capacity of 3 MW (eq)	9.55MW contracted so far, as reported by projects.
	- Annual energy generated (MWh)	- 22,500MWh (eq)	This is on course but can only be measured after commissioning of the build projects.
	- Tonnes of bio-CNG produced	- 4 tonnes per day	Can only be measured after commissioning.
Output 3.3: Demonstration projects monitored, evaluated and showcased.	- Performance Monitoring and analysis of installed	- 5 performance monitoring evaluation reports	This is up-to-date for the contracted projects, i.e., 4 projects.
	- Case studies on each Demonstration Project	- 5 case studies	Work on <i>Evaluation of 2 Demo Projects</i> in progress- 50% to completion.
Output 3.4: Best practice manual developed and widely disseminated	- Best practice manual developed	- 1 best practice manual	Best Practise Manual underway.
Component 4: Scaling-up			

Outcome 4: Investment in waste-to-energy promoted			
Output 4.1: Investment strategy for integrated biogas developed and disseminated	- Investment strategy developed	- Biogas investment strategy developed	Underway and 75% complete
Output 4.2: Technical Assistance provided to realize at least 4 more investment projects (at least 6 MW)	- No. of bankable feasibility studies	- 4 bankable feasibility studies	95% to completion.
	- Standardised long-term feedstock supply agreement available	- Standardised long-term feedstock supply agreement developed	75% to completion.
	- No of new scale-up biogas projects implemented	- At least 4 projects installed and commissioned	One fully commissioned (Riverside Piggery); three are ready for implementation (SPIF Chicken, Bio2Watt, Cape Dairy) - 70% to completion.
	- Amount of MW installed	- At least 6MW installed	Based on contracted projects, achieved.
Output 4.3: Portfolio of at least 25 investment projects compiled and disseminated	- Portfolio investment projects compiled and financiers and developers	- Portfolio of at least 25 investment projects compiled and available to financiers and developers	21 projects assessed and 18 projects assisted with prefeasibility and feasibility studies
Output 4.4: Technical support to design financial support.	- Financial support for biogas identified	- Dedicated financial support for biogas identified	Underway and 75% complete
	- Quantity (USD) of funding identified	- USD 100m of funding identified	Process underway to concretize dedicated funding for biogas – 75% to completion.
Output 4.5: National biogas investment forum organized regularly	- No. of national biogas forum	- 2 national biogas investment fora organised	The second national biogas forum is scheduled October 2022.

III. Project Risk Management

1. Please indicate the overall project-level risks and the related risk management measures: (i) as identified in the CEO Endorsement document, and (ii) progress to-date. Please expand the table as needed.

	(i) Risks	(i) Risk level	(i) Mitigation measures	(ii) Progress to-date	New defined risk ⁵
1	Lack of government commitment to support the project	Low Risk (L)	The project objectives and activities are in line with national policies and objectives. DFFE and DMRE have taken steps to promote the valorisation of waste. The project will actively involve representatives from DFFE, DARD, DMRE and the dtic to ensure their full support throughout the project and beyond.	All government departments are committed in providing support in the implementation of the Project.	<input type="checkbox"/>
2	Lack of interest from SMMEs to take up WtE projects	Modest Risk (M)	Development of detailed activity plans in close cooperation with in-country project partners, stakeholders and developers. A thorough stakeholder consultation process conducted during the project preparation phase identified industries willing to invest in WtE.	Prefeasibility and feasibility studies have been undertaken to inform Early-Stage Projects of their prospects for technical and financial viability. A project pipeline has been established and ready for further development towards bankability.	<input type="checkbox"/>
3	Lack of interest from project developers / technology providers	Low Risk (L)	Project developers expressed their interest in the project during the PPG and assisted in the identification of potential demonstration projects. Throughout the project, there will be regular and continued contact with project developers which should lead to their continued interest and participation.	Recent failures of commissioned biogas projects have been (and is being) debunked through evaluation of decommissioned projects. A renewed interest is emerging from DFIs and that is rekindling the interest of project developers and technology providers.	<input type="checkbox"/>
4	Unsuccessful demonstration at selected sites due to, inter alia: Lack of capacity to operate and maintain biogas SMMEs go bankrupt Fluctuation in waste availability and prices	Medium (M)	Suitable sites have been selected through careful analysis of target sectors and plants to ensure success of demonstration projects including: <ul style="list-style-type: none"> • Selection of proven technologies • Assessment of waste streams • Clear financial commitment from the developers • Training to the operation personnel in the industry. 	It has been established that some technologies proven suitable in other climatic conditions may not necessarily be suitable for local conditions. Some service providers' assumptions have been proven to have not been probable and have therefore been factored out from future project designs.	<input type="checkbox"/>
5	Lack of management and coordination capacity	Medium (M)	Strengthening and expansion of management and coordination capability through activities undertaken in Component 1. PMU at the National level set up and monitored under a defined M&E plan. Clear indicators for tracking outcomes and outputs with a focus on implementation milestones (targets), baseline values and project results and impacts.	The efforts of strengthening the industry association have been increased; the Project has deployed more resources towards capacity building of SABIA. Characterization of waste-streams has been recommissioned to several academic/research institutions to speed up deliverables required for investment and	<input type="checkbox"/>

⁵ New risk added in reporting period. Check only if applicable.

				implementation decision making. The Biogas Guidebook and Decision-Making Tool have been completed and are available for use by stakeholders.	
6	Delays caused by COVID-19 restrictions	High (H)	Adjustment of the workplan and application of innovative ways of implementing activities safely under COVID-19 restrictions	Virtual platforms are already being used where applicable.	☒
7	Pipeline projects not developed enough for bankability assessment	High (H)	Offer technical assistance to those pipeline project with prospects for success and re-assess	Majority of the pipeline projects have been referred for further technical assistance; Four such projects have been or are being assisted. An Early-Stage Project Pipeline has been established; it however presents a different set of challenges as the projects require significant development to reach bankability; the projects will be referred to the Investment Strategy and Investment Forum for possible consideration.	☒
8	Failure to raise the required co-financing	Medium (M)	Project developers encouraged to employ off-balance sheet financing by the project owners; Project also exploring dedicated financing for biogas	While some previously dedicated financing schemes have stopped, the Project is exploring new ones, e.g., Proparco and DiBiCoo; Formulation of the Investment Strategy is underway with an element of identifying funding mechanisms dedicated to the biogas and/or WtE.	☒

2. If the project received a [sub-optimal risk rating \(H, S\)](#) in the previous reporting period, please state the [actions taken](#) since then to mitigate the relevant risks and improve the related risk rating. Please also elaborate on reasons that may have impeded any of the sub-optimal risk ratings from improving in the current reporting cycle; please indicate actions planned for the next reporting cycle to remediate this.

[Delays caused by COVID-19 restrictions:](#)

During the peak of the COVID-19 restrictions construction could not proceed, but certain virtual activities could be carried out online, such as training and video-based site inspections. The PMU could also visit some sites in the vicinity of the base office. As the restrictions were relaxed, assessment of the effects of stoppage were done and a new work programme was formulated and presented to the PSC. Some projects that were under construction has to be assessed and revalued to ascertain the cost of resumption of construction operations as well as implications of the time lapse on warranties/guarantees. The affected demonstration projects were Likhanyiso BioCNG and Limpopo Dairies Biogas projects. Likhanyiso has had to source additional funding from investors and as part of this process have to undertake a comprehensive valuation exercise taking into account the current status of installed equipment, warranties/guarantees that have lapsed as well as subcontracts with the EPC that have to be renegotiated. The mitigation of this risk may require extension of the Project.

[Pipeline projects not developed enough for bankability assessment:](#)

The Project requested for submission of pipeline projects for assessment on viability and bankability but

received, mainly early-stage project that were not ready presentation to financial institutions. They were at idea stage without comprehensive feasibility studies and business plans. The Project then commissioned prefeasibility and feasibility studies to improve the throughput of the project pipeline. The approach was partly informed by the proposals submitted for assessment and a sector-based initiative to determine prospects for investment into biogas. It also covered demographics of traditional authorities with communities that might not have been aware of the Project. All the prefeasibility and feasibility studies have been completed. To fully mitigate this risk, the Project has commissioned preparation of a Deal Book that will be shared with prospective investors and funders at the Investment Forum (in October 2022). Some of the pipeline projects may have to incubated further before they may qualify for financing and that may require further input from the Project and an extension of the Project activities beyond the current end date.

3. Please indicate any implication of the **COVID-19** pandemic on the progress of the project.

University of Venda- affected by the pandemic are deliverables from 4 to 8. About 40% of the deliverable 4 activities were affected by lockdown. After having completed training, both theoretical and practical, in Vhembe District, the other four districts were called to one site for theoretical training and the practical had to be suspended due to the lockdown.

ARC - due to the Covid 19 pandemic that has delayed the procurement of equipment for the AD lab, there may be a further delay in the delivery due to the ban in international flights as the equipment has to be ordered by the RSA supplier from the manufacturer in Sweden. The ARC contract was terminated.

Lukhanyiso Project - The initial constraints with the commencing of the projects were capacity issues at ESCOM South Africa which delayed the erection of our cow housing, the source (raw material) for the Biogas project. The cow housing will not be finished by November which is the cumulative consequences of delay in power supply and Covid-19 lockdown.

4. Please clarify if the project is facing delays and is expected to request an **extension**.

The Project still has several contracts open and pending certain inputs from other contractors. While all the contracts end before the end date of the Project, there may be a need for extension of certain aspects of the Project to accommodate finalization of reports and publishing/distribution of knowledge products. The outcomes of one of the contracts, i.e., Evaluation of two demonstration projects that were supported under the Project may also recommend certain remedial actions to rehabilitate the demonstration projects. That may require the extension of the Project.

5. Please provide the **main findings and recommendations of completed MTR**, and elaborate on any actions taken towards the recommendations included in the report.

- Consideration should be given to the revision of the design to incorporate a Long-Term Agreement (LTA) with a Service Provider with extensive policy and implementation capacity and capability in the biogas or renewable energy sector in order to assist with the acceleration of the achievement of results and ensure quality of outputs.
 - It was not possible to revive the LTE Service Provider on the basis of previous procurement process, new terms of reference were issued for Output 4.1 & 4.4 Biogas Investment Strategy formulation and Technical Support for design of dedicated financial mechanisms
- The M&E systems require constant updating with information and there is a need for adoption of a documents repository that is continually updated in this regard.
 - A tracking tool was adopted as was to be regularly updated to keep the progress of Project activities visible on a dashboard;
 - The Counterpart also enforced a regular Quarterly Report system
- Address pending matters with SABIA on the model to capacitate the Association, i.e., the termination of the SABIA Administrator/Consultant contract has left a vacuum with regards to implementation of the website and other administrative activities.

- SABIA was further supported to be sustainable beyond the Project phase through reformulation of their business plan and convening a round table of funders.

1. Government and/or Counterpart Organizations

- The DSBD should play a role in particular with regards to ensuring the SMME attributes of the Project are implemented, in particular through SEDA and SMME policy instruments.
 - DSBD was compelled to attend PSC Meetings and they did attend some
 - The Project also initiated prefeasibility and feasibility studies targeted at entry level opportunities in rural and peri-urban areas to identify prospects for biogas in these situations
- **The dtic** should assume a role in ensuring that various funding instruments such as the Infrastructure Incentive Scheme and the Black Industrialist Scheme programmes are brought to bear, including the Support Programme for Industrial Innovation (SPII) and the Technology and Human Resources for Industry Programme (THRIP).
 - Some of the Scaling up initiatives were directed to DTIC for possible support under the mentioned facilities
 - The initiatives were left to the project owners to submit to DTIC and some efforts are underway in that regards, e.g., digestate processing plant
- The Counterpart Departments (DFFE and DMRE) must consider providing additional administrative support to the PMU as part of in-kind contribution. This could be done by secondment of capable administrative staff by the Departments to the PMU.
 - No secondment of staff was possible from either Departments

2. Donor

- It is recommended that the project is extended by a further 12 months to enable achievement of results
 - The Project was extended by more than 12 months as there were also the effects of COVID-19

IV. Environmental and Social Safeguards (ESS)

1. As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

Category A project

Category B project

Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not escalated to Category A or B).

Notes on new risks:

- *If new risks have been identified during implementation due to changes in, i.e. project design or context, these should also be listed in (ii) below.*
- *If these new/additional risks are related to Operational Safeguards #2, 3, 5, 6, or 8, please consult with UNIDO GEF Coordination to discuss next steps.*
- *Please refer to the UNIDO [Environmental and Social Safeguards Policies and Procedures \(ESSPP\)](#) on how to report on E&S issues.*

Please expand the table as needed.

	E&S risk	Mitigation measures undertaken during the reporting period	Monitoring methods and procedures used in the reporting period
(i) Risks identified in ESMP at time of CEO Endorsement			
(ii) New risks identified during project implementation (if not applicable, please insert 'NA' in each box)			

V. Stakeholder Engagement

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes** regarding engagement of stakeholders in the project (based on the Stakeholder Engagement Plan or equivalent document submitted at CEO Endorsement/Approval).

General observation that response from private sector is more apt than from public institutions; More follow up actions have been taken in respect of public institutions. A further distinction can be made between voluntary and contracted obligations for private and public sector, respectively. On both counts (voluntary/contracted), private sector stakeholders were more responsive, but were more so where there was a monetary contractual obligation. The public sector stakeholders were less responsive on both counts with the voluntary aspect being more prominent. Where the public sector was contracted by the Project, there was also slow or poor quality of delivery resulting in one instance of cancelling the contract (Agricultural Research Council (ARC) – Characterization of Waste-Streams and Valorisation of Digestate). Academic/research institutions proved to be more responsive particularly if they used their commercial arms, i.e., university owned enterprise companies, to do the work. The enterprise companies have access to students as a resource, and the students gain research experience from the work resulting in a win-win situation.

2. Please provide any feedback submitted by national counterparts, GEF OFP, co-financiers, and other partners/stakeholders of the project (e.g. private sector, CSOs, NGOs, etc.).

The prefeasibility and feasibility studies undertaken were highly appreciated by the stakeholders. All the final reports were shared with the respective stakeholders who expressed appreciation for the outcomes and intention to pursue investment in biogas projects.

3. Please provide any **relevant stakeholder consultation** documents.

8th Project Steering Committee Agenda
8th Project Steering Committee minutes
8th Project Steering Committee action list
9th Project Steering Committee Agenda
9th Project Steering Committee minutes
9th Project Steering Committee action list
Action Item 13 of PSC 9
Investment Strategy Minutes

VI. Gender Mainstreaming

1. Using the previous reporting period as a basis, please report on the **progress achieved on implementing gender-responsive measures and using gender-sensitive indicators**, as documented at CEO Endorsement/Approval (in the project results framework, gender action plan or equivalent),.

Training Workshops have achieved more than 30% participation of women in all the training session.

VII. Knowledge Management

1. Using the previous reporting period as a basis, please elaborate on any **knowledge management activities / products**, as documented at CEO Endorsement / Approval.

GEFID_ Enterprises University of Pretoria POSTER
GEFID_8th PSC Meeting Minutes Final
GEFID_8th PSC Meeting Minutes with comments
GEFID_9th PSC Agenda 08032022
GEFID_Action List for 9th PSC Meeting- Updated15062022 DFFE
GEFID_Areas requiring explanation
GEFID_Baobab Final Report 25 February 2022
GEFID_Draft Business Model Report - Baviaanspoort Prison Piggery _ 30 JULY
GEFID_Draft Report - Baobab Fruits
GEFID_Draft Report - Oskraal Aquaponics - Rev 05
GEFID_Edited 8th PSC Meeting Minutes 080322
GEFID_Final Business Model Report - Baviaanspoort Prison Piggery _ SEPTEMBER 2021 _ V3
GEFID_Final Report August 2021 UP
GEFID_Lukhanyiso bio-CNG UNIDO 1st Progress Report 2020 051120
GEFID_Oskraal Final Report 25 February 2022
GEFID_Progress Report for PSC 9
GEFID_Submitted Draft Report Rabbit Farming
GEFID_Submitted Draft Report Tilapia
GEFID_Surface Farming Draft Report Oct 2021 Rev003
GEFID_Surface Farming Final Report 25 February 2022
GEFID_Tilapia Final Report 25 February 2022
GEFID_TORs Calibration of Biogas Decision-Making Tool
GEFID_ToRs for the National Biogas Training Workshop to Government officials and Public Institutions_
GEFID_TORs SETA Alignment of all the Training Materials Developed by the Project
GEFID_UNIDO - Ecometrix Africa Final Progress Report (210601) i2(2)
GEFID_UNIDO - SABIA BUSINESS PLAN FIRST PROGRESS REPORT v3.1
GEFID_UNIDO Decision Making Tool Baviaanspoort CHP Rev01
GEFID_UNIDO Decision Making Tool Baviaanspoort LPG replacement Rev01
GEFID_UNIDO PROGRESS REPORT 5_UNIVEN
GEFID_UNIDO -SABIA BUSINESS PLAN FIRST PROGRESS REPORT v2.0 comments AB (1)
GEFID_UNIDO_GEF Truter Final Presentation
GEFID_UNIDO_Kick off meeting - Integrated Investment Strategy for Biogas Projects in South Africa_FINAL_2022-01-27

[GEFID_UNIDO-Biogas-Standard-Progress Report 4 \(new contract\) Final 30062021 Updated](#)
[GEFID_Updated 9th PSC Agenda 08032022](#)
[GEFID_Updated Action List for 8th PSC Meeting 250222](#)
[GEFID_W1898-30002-00 Regenize Report](#)
[GEFID_W1898-30002-01 Regenize Report](#)
[GEFID_W1898-30003-01 YBT FINAL Report](#)
[GEFID_W1898-30003-01 YBT Report](#)
[GEFID_W1898-30005-00 Regenize Final Report](#)
[GEFID_W1898-30005-00 Regenize Final Report](#)

2. Please list any **relevant knowledge management mechanisms / tools** that the project has generated.

<https://docs.unido.org/OTCS/cs.exe?func=ll&objId=21957534&objAction=browse&viewType=1>

VIII. Implementation progress

1. Using the previous reporting period as a basis, please provide information on **progress, challenges and outcomes achieved/observed** with regards to project implementation.

Progress

- Significant progress has been made in respect of converting lessons learned during the implementation of the Project into knowledge products that will be accessible to stakeholders in the biogas industry.
- The industry association is transforming into a sustainable and capable entity ready to support the activities initiated under the Project.

Challenges

- Investment decisions were/are not within the control of the Project, hence project owners tended to dictate the pace at which the projects could be implemented leading to cancellation of some contracted projects especially under Component 3 (Demonstration Projects).
- Partners involved in a project could get into conflicts resulting in stagnation of the project as well as decommissioning while legal processes take precedence.
- Due diligence on the project developers could not be thorough enough to exclude some developers whose submissions qualified them based on external qualifications and experience that the PMO was not privy to.

Outcomes

- Biogas industry stakeholders are more aware of the importance of biogas in the country's energy mix and understand their respective roles in promotion of the industry.
- The Project has equipped the biogas industry with useful tools and capacity to grow the industry, e.g., Biogas Guidebook; Decision-Making Tool; Biogas Standards; Best Practice Manual; SETA aligned Training Materials; qualified biogas construction and maintenance technicians; Digestate market potential; Biogas Investment Strategy; and a Deal Book for pipeline projects

2. Please briefly elaborate on any **minor amendments**⁶ to the approved project that may have been introduced during the implementation period or indicate as not applicable (NA).

⁶ As described in Annex 9 of the *GEF Project and Program Cycle Policy Guidelines*, **minor amendments** are changes to the project design or implementation that do not have significant impact on the project objectives or scope, or an increase of the GEF project financing up to 5%.

Please tick each category for which a change has occurred and provide a description of the change in the related textbox. You may attach supporting documentation, as appropriate.

<input checked="" type="checkbox"/>	Results Framework	<i>The Results Framework was updated after the MTR to align with the recommendations as well as to accommodate the delays caused by COVID-19</i>
<input type="checkbox"/>	Components and Cost	<i>N/A</i>
<input type="checkbox"/>	Institutional and Implementation Arrangements	<i>N/A</i>
<input type="checkbox"/>	Financial Management	<i>N/A</i>
<input checked="" type="checkbox"/>	Implementation Schedule	<i>The Project was extended to end of October 2022</i>
<input type="checkbox"/>	Executing Entity	<i>N/A</i>
<input type="checkbox"/>	Executing Entity Category	<i>N/A</i>
<input checked="" type="checkbox"/>	Minor Project Objective Change	<i>The assessment of pipeline projects for bankability yielded a need for prefeasibility/feasibility studies to be conducted to improve the pipeline of new projects.</i>
<input checked="" type="checkbox"/>	Safeguards	<i>Valuation of the projects under construction was conducted to cater for the period the construction works were disrupted by the COVID-19 Pandemic restrictions as well as the lapsing of warranties/guarantees</i>
<input checked="" type="checkbox"/>	Risk Analysis	<i>Two additional risks were discovered and mitigation was recommended and is under implementation.</i>
<input type="checkbox"/>	Increase of GEF Project Financing Up to 5%	<i>N/A</i>
<input type="checkbox"/>	Co-Financing	<i>N/A</i>
<input type="checkbox"/>	Location of Project Activities	<i>N/A</i>
<input type="checkbox"/>	Others	<i>N/A</i>

1. Please provide progress related to the **financial implementation** of the project.

GRANT DELIVERY REPORT	Grant:	2000003325	Grant Status:	Authority to implement	Grant Validity:	17.03.2016 – 31.10.2022
	Sponsor:	400150 – GEF – Global Environment Facility	Currency:	USD	Reporting Period:	17.03.2016 – 22 07 2022
	Other Reference:	5704-U3-PJ-FS-GR-01	Fund:	GF	Prepared on:	22.07.2022
Project	Project Description	Country	Region	Project Manager		Project Validity
130310	PROMOTING ORGANIC WASTE-TO-ENERGY AND OTHER LOW-CARBON TECHNOLOGIES IN SMALL AND MEDIUM AND MICRO-SCALE ENTERPRISES (SMMES): ACCELERATING BIOGAS MARKET DEVELOPMENT.	South Africa	Africa	Alois Posekufa Mhlanga		21.03.2016 – 31.10.2022 Implement

	Description	Released Budget Current Year (a)	Obligations Current Year (b)	Disbursements Current Year (c)	Expenditures Current Year (d=b+c)	Total Agreement Budget (e)	Released Budget (f)	Obligations + Disbursements (g)	Funds Available* (h=f-g)	Support Cost (i)	Total Expenditures (j=g+i)
130310											
130310-1-01-06	Capacities strengthened	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	0.00	0.00	0.00	0.00	22 398,08	22 398,08	22 398,08	0,00	0.00	22 398,08

1500	Local travel	0.00	0.00	63,93	63,93	25 167,02	25 167,02	25 230,95	(63,93)	0.00	25 230,95
1600	Staff Travel	0.00	0.00	(63,93)	(63,93)	63,93	63,93	0,00	63,93	0.00	0,00
1700	Nat.Consult./Staff	(10 091,63)	5 761,95	8 633,73	395,68	124 452,65	124 452,65	148 939,96	(24 487,31)	0.00	148 939,96
2100	Contractual Services	26 390,76	(33 528,14)	34 057,04	528,90	457 385,39	457 385,39	431 523,53	25 861,86	0.00	431 523,53
3500	International Meetings	3 934,39	0.00	0.00	0.00	23 098,05	23 098,05	19 163,66	3 934,39	0.00	19 163,66
4300	Premises	659,17	0.00	0.00	0.00	1 400,18	1 400,18	741,01	659,17	0.00	741,01
4500	Equipment	0.00	0.00	6,40	6,40	2 706,55	2 706,55	2 712,95	(6,40)	0.00	2 712,95
5100	Other Direct Costs	(1 544,81)	(244,54)	1 933,52	688,98	14 791,34	14 791,34	18 025,13	(3 233,79)	0.00	18 025,13
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	63 500,04	63 500,04
130310-1-01-06	Total	19 347,88	(28 010,73)	44 630,69	16 619,96	671 463,19	671 463,19	668 735,27	2 727,92	63 500,04	732 235,31
130310-1-02-01	Market and regulatory framework strength	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	0.00	0,01	11 023,79	11 023,80	123 466,98	123 466,98	134 490,78	(11 023,80)	0.00	134 490,78
1500	Local travel	1 670,05	0.00	0.00	0.00	9 023,74	9 023,74	7 353,69	1 670,05	0.00	7 353,69

1700	Nat.Consult./Staff	0.00	11 638,51	13 156,89	24 795,40	18,93	18,93	24 814,33	(24 795,40)	0.00	24 814,33
2100	Contractual Services	182,88	0,00	15 080,02	15 080,02	271 646,24	271 646,24	196 543,38	75 102,86	0.00	196 543,38
3000	Train/Fellowship/Study	854,76	0.00	0.00	0.00	1 854,76	1 854,76	0.00	1 854,76	0.00	0.00
5100	Other Direct Costs	0,42	1 250,12	1 542,81	1 792,93	10 115,35	10 115,35	11 907,86	(1 792,51)	0.00	11 907,86
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35 619,03	35 619,03
130310-1-02-01	Total	708,11	12 888,64	39 803,51	52 692,15	416 126,00	416 126,00	375 110,04	41 015,96	35 619,03	410 729,07
130310-1-03-02	Biogas systems operational	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	(15 706,21)	13 685,70	19 227,69	32 913,39	60 463,24	60 463,24	109 082,84	(48 619,60)	0.00	109 082,84
1500	Local travel	0.00	0.00	0.00	0.00	2 229,34	2 229,34	2 229,34	0,00	0.00	2 229,34
1700	Nat.Consult./Staff	124 119,02	3 372,35	9 5 888,30	9 260,65	146 128,06	146 128,06	31 269,69	114 858,37	0.00	31 269,69
2100	Contractual Services	181 809,12	(392 263,61)	##### #	(240 834,63)	1 816 824,14	##### #####	1 394 180,39	422 643,75	0.00	1 394 180,39
4300	Premises	0.00	0.00	0.00	0.00	493,66	493,66	493,66	0,00	0.00	493,66
4500	Equipment	(59,38)	0.00	39,00	39,00	49 175,86	49 175,86	49 274,24	(98,38)	0.00	49 274,24
5100	Other Direct Costs	(2 557,36)	0.00	782,87	782,87	5 124,69	5 124,69	8 464,92	(3 340,23)	0.00	8 464,92

9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	151 423,30	151 423,30
130310-1-03-02	Total	287 605,19	(375 205,56)	##### #	(197 838,72)	2 080 438,99	##### #####	1 594 995,08	485 443,91	151 423,30	1 746 418,38
130310-1-04-02	Additional projects and documents	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	(35 667,07)	(223,00)	23 154,02	22 931,02	84 284,01	84 284,01	142 882,10	(58 598,09)	0.00	142 882,10
1500	Local travel	996,52	0.00	0.00	0.00	10 035,81	10 035,81	9 039,29	996,52	0.00	9 039,29
1700	Nat.Consult./Staff	317 060,07	22 015,80	32 984,69	55 000,49	531 721,03	531 721,03	269 661,45	262 059,58	0.00	269 661,45
2100	Contractual Services	(90 500,68)	(9 287,00)	##### #	115 533,12	94 163,13	94 163,13	300 196,93	(206 033,80)	0.00	300 196,93
3000	Train/Fellowship/Study	50 960,00	0.00	0.00	0.00	50 960,00	50 960,00	0.00	50 960,00	0.00	0.00
4300	Premises	0.00	0.00	0.00	0.00	888,84	888,84	888,84	0,00	0.00	888,84
5100	Other Direct Costs	(18 564,17)	0.00	1 478,50	1 478,50	9 976,00	9 976,00	30 018,67	(20 042,67)	0.00	30 018,67
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71 431,95	71 431,95
130310-1-04-02	Total	224 284,67	12 505,80	##### #	194 943,13	782 028,82	782 028,82	752 687,28	29 341,54	71 431,95	824 119,23
130310-1-05-01	Project Management Cost	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	0.00	0.00	0.00	0.00	58 747,97	58 747,97	58 747,97	0,00	0.00	58 747,97

1500	Local travel	0.00	0.00	0.00	0.00	14 752,60	14 752,60	14 752,60	0,00	0.00	14 752,60
1700	Nat.Consult./Staff	0.00	0.00	0.00	0.00	111 458,32	111 458,32	111 458,32	0,00	0.00	111 458,32
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	0,00	0,00	0.00	0,00	0.00	0.00
4300	Premises	0.00	0.00	0.00	0.00	1 437,70	1 437,70	1 437,70	0,00	0.00	1 437,70
4500	Equipment	(5,44)	0.00	0,00	0,00	5 769,16	5 769,16	5 774,60	(5,44)	0.00	5 774,60
5100	Other Direct Costs	(2 973,55)	0.00	1 016,45	016,45	9 887,25	9 887,25	13 877,25	(3 990,00)	0.00	13 877,25
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19 574,55	19 574,55
130310-1-05-01	Total	(2 978,99)	0.00	1 016,45	016,45	202 053,00	202 053,00	206 048,44	(3 995,44)	19 574,55	225 622,99

130310-1-51-01	Effective Assessment of Outputs	USD	USD	USD	USD	USD	USD	USD	USD	USD	USD
1100	Staff & Intern Consultants	(11 964,29)	0.00	0.00	0.00	0,00	0,00	11 964,29	(11 964,29)	0.00	11 964,29
1500	Local travel	30 943,32	0.00	0.00	0.00	35 682,46	35 682,46	4 739,14	30 943,32	0.00	4 739,14
1700	Nat.Consult./Staff	433,42	0.00	0.00	0.00	10 111,29	10 111,29	9 677,87	433,42	0.00	9 677,87
2100	Contractual Services	0.00	0.00	0.00	0.00	277,02	277,02	277,02	0,00	0.00	277,02
3500	International Meetings	0.00	0.00	0.00	0.00	1 040,80	1 040,80	1 040,80	0,00	0.00	1 040,80

4300	Premises	(402,2 1)	0.00	0.00	0.00	1 165,45	1 165,4 5	1 567,66	(402,2 1)	0.00	1 567,66
5100	Other Direct Costs	161,7 5	(615,2 2)	5 231,52	616,30	4 21 722,98	21 722,9 8	19 177,53	2 545,45	0.00	19 177,53
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4 587,73	4 587,73
130310- 1-51-01	Total	26 171,9 9	(615,2 2)	5 231,52	616,30	4 70 000,00	70 000,0 0	48 444,31	21 555,69	4 587,73	53 032,04
130310	Total	648 138,8 5	(378 437,07)	##### #	72 049,27	4 222 110,00	##### ####	3 646 020,42	576 089,58	346 136,60	3 992 157,02
2000003 325	USD Total	648 138,8 5	(378 437,07)	##### #	72 049,27	4 222 110,00	##### ####	3 646 020,42	576 089,58	346 136,60	3 992 157,02

IX. Work Plan and Budget

1. Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Please fill in the below table or make a reference to a file, in case it is submitted as an annex to the report.

Outputs by Project Component	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7				GEF Grant Budget Available (US\$)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
Component 1 – Capacity building																																
Outcome 1: Capacity of market players enabled and strengthened, and technology support system established																																
Output 1.1: Detailed assessment and characterization of waste streams from agro-processing SMMEs conducted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Output 1.2: Capacity of biogas support and low-carbon technologies support centre strengthened	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																											
Output 1.3: Biogas guidelines and decision support tools for integrated biogas systems in agro-processing SMMEs are developed and disseminated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																											
Output 1.4: Professionals and technicians in biogas technology trained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Output 1.5: Targeted training workshops (10) for market players (project developers, enterprise executives, farmers and operators,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

1. X. Synergie1. **Synergies** achieved:

Several academic and research institutions with ongoing programmes were supported, e.g., Enterprise UP, UNISA Enterprise, Stellenbosch University. These institutions intend to continue the research topics beyond the Project phase subject to resource availability.

A lasting relationship with project developers was initiated, e.g., Resilient Circular, Logical Waste, JG Afrika, Equilibrium, etc.

Project owners/investors depended on the Project's advice for some of their critical decisions, e.g., Limpopo Dairies, Lukhanyiso, Bio2Watt, Riverside Piggeries, Spif Chicken, etc.

A strong relationship with development financial institutions was created, e.g., Development Bank of Southern Africa (DBSA), Public Investment Corporation (PIC)

3. Stories to be shared (Optional)

Please provide a brief summary of any especially interesting and impactful project results that are worth sharing with a larger audience, and/or investing communications time in. Please include links to any stories/videos available online.

EXPLANATORY NOTE

1. **Timing & duration:** Each report covers a twelve-month period, i.e. 1 July 2021 – 30 June 2022.
2. **Responsibility:** The responsibility for preparing the report lies with the project manager in consultation with the Division Chief and Director.
3. **Evaluation:** For the report to be used effectively as a tool for annual self-evaluation, project counterparts need to be fully involved. The (main) counterpart can provide any additional information considered essential, including a simple rating of project progress.
4. **Results-based management:** The annual project/programme progress reports are required by the RBM programme component focal points to obtain information on outcomes observed.

Global Environmental Objectives (GEOs) / Development Objectives (DOs) ratings	
Highly Satisfactory (HS)	Project is expected to achieve or exceed <u>all</u> its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as “good practice”.
Satisfactory (S)	Project is expected to <u>achieve most</u> of its <u>major</u> global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to <u>achieve most</u> of its major <u>relevant</u> objectives but with either significant shortcomings or modes overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environmental benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve <u>some</u> of its major global environmental objectives with major shortcomings or is expected to <u>achieve only some</u> of its major global environmental objectives.
Unsatisfactory (U)	Project is expected <u>not</u> to achieve <u>most</u> of its major global environmental objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, <u>any</u> of its major global environmental objectives with no worthwhile benefits.

Implementation Progress (IP)	
Highly Satisfactory (HS)	Implementation of <u>all</u> components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as “good practice”.
Satisfactory (S)	Implementation of <u>most</u> components is in substantial compliance with the original/formally revised plan except for only few that are subject to remedial action.
Moderately Satisfactory (MS)	Implementation of <u>some</u> components is in substantial compliance with the original/formally revised plan with some components requiring remedial action.
Moderately Unsatisfactory (MU)	Implementation of <u>some</u> components is <u>not</u> in substantial compliance with the original/formally revised plan with most components requiring remedial action.
Unsatisfactory (U)	Implementation of <u>most</u> components is <u>not</u> in substantial compliance with the original/formally revised plan.
Highly Unsatisfactory (HU)	Implementation of <u>none</u> of the components is in substantial compliance with the original/formally revised plan.

Risk ratings	
Risk ratings will assess the overall risk of factors internal or external to the project which may affect implementation or prospects for achieving project objectives. Risk of projects should be rated on the following scale:	
High Risk (H)	There is a probability of greater than 75% that assumptions may fail to hold or materialize, and/or the project may face high risks.
Substantial Risk (S)	There is a probability of between 51% and 75% that assumptions may fail to hold or materialize, and/or the project may face substantial risks.
Moderate Risk (M)	There is a probability of between 26% and 50% that assumptions may fail to hold or materialize, and/or the project may face only moderate risk.
Low Risk (L)	There is a probability of up to 25% that assumptions may fail to hold or materialize, and/or the project may face only low risks.