



**Validation report form for post-registration changes for
CDM project activities
(Version 03.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Joburg Landfill Gas to Energy Project UNFCCC No: 6797
Process track	<input type="checkbox"/> Prior approval <input type="checkbox"/> Issuance <input checked="" type="checkbox"/> Renewal of crediting period
Version number of the validation report	1.1
Completion date of the validation report	02/12/2020
Type(s) of PRCs	<input type="checkbox"/> Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents ¹ <input checked="" type="checkbox"/> Corrections <input type="checkbox"/> Changes to the start date of the crediting period <input type="checkbox"/> Inclusion of a monitoring plan <input type="checkbox"/> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents <input type="checkbox"/> Changes to the project design <input type="checkbox"/> Changes specific to afforestation and reforestation project activities
Version number of PDD to which this report applies	12
Project participants	ENER-G Systems Joburg (PTY) Ltd
Host Party	Republic of South Africa
Applied methodologies and standardized baselines	ACM0001: Flaring or use of landfill gas - Version 19.0. ASB0040-2018 Standardized baseline: Grid emission factor for Southern African Power Pool, version 1.
Mandatory sectoral scopes	Sectoral Scope 13: Waste handling and disposal
Conditional sectoral scopes, if applicable	Sectoral Scope 1: Energy industries (renewable - / non-renewable sources)
Name and UNFCCC reference number of	E-0022 TÜV NORD CERT GmbH (TÜV NORD)

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

the DOE	
Name, position and signature of the approver of the validation report	 Stefan Winter - Final Approver

SECTION A. Executive summary

ENER-G Systems Joburg (PTY) Ltd has commissioned the TÜV NORD JI/CDM Certification Program to carry out validation of the post registration changes of project activity:

“Joburg Landfill Gas to Energy Project”

with regard to the relevant requirements for CDM programme activities.

The project will contribute to reduce GHG emissions due to recovery and destruction of methane from municipal solid waste landfill sites previously emitted to the atmosphere. The recovered methane containing landfill gas is destroyed by combusting it in an engine and/or flare. A project will include a gas collection system, LFG pre-treatment system, flaring system and/or energy generation system along with a monitoring and protection system as well as data recording and back-up. Additionally to the destruction of the methane/landfill gas the engine is generating electricity which is fed into the connected Southern African Power Pool's electricity system. By this GHG emissions will be further reduced by replacing grid electrical power sourced from fossil fuel plants with renewable energy from the recovered methane. The project includes 5 landfill sites in the Gauteng Province of South Africa.

W.r.t further details of the project activity (PA) please refer to the related PDD as well as related PA validation report for renewal of crediting period to which this report is attached to.

SECTION B. Validation team, technical reviewer and approver

On the basis of a competence analysis and individual availabilities an assessment team, consistent of one team leader and one team member, were appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the following table below.

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/Document review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader/	EI	Kochaniewicz	Grzegorz	-	X	-	x	X

B.2. Technical reviewer and approver of the validation report on PRCs

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Winter	Dtefan	TÜV NORD CERT
2.	Approver	IR	Winter	Stefan	TÜV NORD CERT

SECTION C. Means of validation**C.1. Desk/document review**

The assessment of post registration changes consisted of the following steps:

- Appointment of team members and technical reviewers

- A desk review of the registered and revised PDD/^{PDD} submitted by the client or publicly available and additional supporting documents
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Resolution of corrective actions (CARs / CLs) (if any)
- Final reporting
- Technical review
- Final approval.

The registered as well as the revised PDD and supporting background documents related to the project design and the post registration changes were reviewed.

As far as required the assessment team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

C.2. On-site inspection

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	Activity performed on-site	Site location	Date	Team member
1.	-			

Onsite visit was not conducted due to CoVID-19 pandemic. For further details pls refer to PA validation report for renewal of crediting period to which this report is attached to.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Cornish	David	General Manager/ENERGY Systems SA (PTY) LTD	20/03/2020 and 07/06/2020	General set up of the PA Changes to the PA Renewal auditing plan	G. Kochaniewicz
2	Tuchten	Olivia	Principal Carbon Advisor/Promethium Carbon	20/03/2020 and 07/06/2020	Application of new methodology version Related host country legislation and updates thereof Discussion on open issues and additionality approach decision, potential PRC	

There was a general video conference on 20/03/2020 on the contracting issues and PA-Status and changes due to on going PA e.g. PA management, methodology and legislation. A second conference call via Skype has been conducted on 07/06/2020 to discuss remaining open issues and South African legislation. Besides that related requests, issues and questions have been exchanged via Email.

C.4. Sampling approach

n/a

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	-	-	-
Temporary deviations from the registered monitoring plan,	-	-	-

applied methodologies, standardized baselines or other methodological regulatory documents			
Corrections	-	-	-
Changes to the start date of the crediting period	-	-	-
Inclusion of a monitoring plan	-	-	-
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
Changes to the project design	-	-	-
Changes specific to afforestation and reforestation project activities	-	-	-
Others (please specify)	-	-	-
Total	-	-	-

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	A draft revised PDD was submitted to the validation team by the project participants. By means of the UNFCCC website it has been checked whether the latest applicable PDD template CDM-PDD-FORM has been used. Further it has been checked whether the latest instructions for filling out the PDD template have been followed. Every section has been checked against the respective guidance. The following sources of information have been used in this context: <ul style="list-style-type: none">• /PDD/• /PDD-T/• /unfccc/		
Findings	<input checked="" type="checkbox"/>	The latest reporting template CDM-PDD-FORM as listed on the UNFCCC website has been used for the PDD.	
	<input type="checkbox"/>	The latest instructions for filling out the PDD have been followed. No adverse finding has been identified in the course of this validation.	
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: CAR 01; CAR 05; CAR 09	
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
	The project participants used the latest version of the PDD form (version 11) for the updated PDD than the version of the PDD form of the registered PDD. It is confirmed that the information transferred to the latest version of the PDD form is materially the same as that of the registered PDD.		

D.2. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

Means of validation	n/a
Findings	
Conclusion	

D.3. Corrections

Means of validation	Description of post registration change		
	Start Date: Please provide the start date of the change	12/11/2019	End Date: Please provide the end date of the change, if applicable
	Description: Please give a detailed description of the	Removal of name of former project participant in section B.7.3: The previously registered PDD referred to "EcoSecurities" as the entity responsible for collecting	

	change(s)	onsite data; performing regular checks of the final data and analysing project performance prior to any verification. EcoSecurities is no longer responsible for these activities and is no longer involved in the project. ENER-G Systems Joburg is now responsible for the activities in question.	
	Assessment of post registration change – Corrections		
	Accuracy: Please give a detailed assessment whether the deviation is likely to lead to a reduction in the accuracy of the ER calculation.	The correction affects only project information and does not affect the Emission Recution calculation.	
	Conservative-ness: Please give a detailed assessment whether conservative assumptions or discount factors have been applied to ensure that ER will not be overestimated.	The correction affects only project information and does not affect the Emission Recution calculation.	
	Appendix PS: Check if the changes fall under one of the scenarios of Appendix of the PS for PoA.	The correction is in line with PS version 02.0 paragraph 232.	
Findings			
Conclusion			
Based on the above stated the corrections to the registered CPA-DD are in accordance with applicable validation requirements related to the corrections in the VVS for PoA.			
Revised PDD			
Rev. of PDD: Check whether the changes have been fully addressed in a revised PDD .	<input checked="" type="checkbox"/>	The changes have correctly been reflected in the revised PDD.	
	<input type="checkbox"/>	A revision of the PDD is not required (in case of temp. changes).	
	<input checked="" type="checkbox"/>	The revised PDD has been forwarded in (i) track-change and (ii) clean version.	
Prior Approval			
Prior approval: Assess whether the change requires prior approval of the board	<input type="checkbox"/>	The post registration change requires prior approval	
	<input checked="" type="checkbox"/>	The post registration change does not require prior approval	

D.4. Changes to the start date of the crediting period

Means of validation	Not applicable
Findings	
Conclusion	

D.5. Inclusion of a monitoring plan

Means of validation	Not applicable
Findings	
Conclusion	

D.6. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

Means of validation	Not applicable
Findings	
Conclusion	

D.7. Changes to the project design

Means of validation	Not applicable
Findings	
Conclusion	

D.8. Changes specific to afforestation and reforestation project activities

Means of validation	Not applicable
Findings	
Conclusion	

SECTION E. Internal quality control

Before submission of the final assessment report a technical review is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the assessment opinion as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

SECTION F. Validation opinion

The below listed changes have occurred after the registration of the project.

<i>Type of Change occurred</i>	<i>Total No. of changes</i>	<i>No. of changes which require prior approval</i>
<input type="checkbox"/> Temporary deviations from the MP	-	-
<input type="checkbox"/> Temporary deviations from the MM	-	-
<input checked="" type="checkbox"/> Corrections that do not affect the project	1	-
<input type="checkbox"/> Change to the start date of the crediting p.	-	-
<input type="checkbox"/> Permanent changes from the MP	-	-
<input type="checkbox"/> Permanent changes from the MM	-	-
<input type="checkbox"/> Design changes to the project activity / PoA	-	-
<input type="checkbox"/> Changes specific to AR projects	-	-
<input type="checkbox"/> Temporary deviations from the MP	-	-
<input type="checkbox"/> Temporary deviations from the MM	-	-

The above listed post registration changes doesn't require prior approval of the Board.

Essen, 02/12/2020




Grzegorz Kochaniewicz
TÜV NORD JI/CDM CP
Assessment Team Leader

Appendix 1. Abbreviations

Abbreviations	Full texts
AEPC	Alternate Energy Promotion Centre
BAU	Business as usual
BUS	Biogas User Survey
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
CP	Certification Program // Crediting Period
DNA	Designated National Authority
EB	CDM Executive Board
ER	Emission Reductions
ETS	Emission Trading Scheme
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
LOA	Letter of Approval
MOC	Modalities of Communication
PCP	CDM Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PS	CDM Project Standard
QC/QA	Quality control/Quality assurance
RCP	Renewal of Crediting Period
UNFCCC	United Nations Framework Convention on Climate Change
VVS	CDM Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD J/CDM Certification Program

Mr. Grzegorz Kochaniewicz


SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2022-02-08
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2022-02-08

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy Demand
13.1	Solid waste and wastewater
14.1	Afforestation and Reforestation

173 - Rev. 9, Date: 2019-04-18

173_001-10A00-F20_2019-04-18_mw9



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD J/CDM Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2020-07-27
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2020-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
4.1	Cement and lime production
4.2	Paper
5.2	Caprolactam, nitric and adipic acid
9.1	Aluminium and magnesium production
9.2	Iron, steel and Ferro-alloy production
13.1	Solid waste and wastewater
13.2	Manure

163 - Rev. 5, Date: 2017-07-20

163_001-10A00-F20_2017-07-20_mw4

Appendix 3. Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1	PP	/LOA/	Host Party approvals	Letter of Approval from DNA of Republic of South Africa (Host party) dated 17/11/2011	UNFCCC
2	PP	/MOC/	Modalities of Communication dated 29/01/2015; 29/01/2015/ & 16/11/2018	-	UNFCCC
3	PP	/PDD/	Revised PDD	Revised Project Design document "Joburg Landfill Gas to Energy Project" Version No. 10 dated 25/03/2020 Revised Project Design document "Joburg Landfill Gas to Energy Project" Version No. 11 dated 08/06/2020 Revised Project Design document "Joburg Landfill Gas to Energy Project" Version No. 12 dated 18/08/2020 Revised Project Design document "Joburg Landfill Gas	PP

No.	Author	Reference	Title	References to the document	Provider
				to Energy Project” Version No. 12 dated 26/09/2020	
4	PP	/PDD-Reg/	Registered PDD	Registered Project Design Document named “Joburg Landfill Gas to Energy Project” Version No. 09 dated 06/11/2012	UNFCCC
5	PP	/XLS/	Emission reduction calculation spread sheet	RCP Emission reduction calculation spread sheet – 2 nd Crediting Period - Version 1 with respect to PDD version 10 dated 02/03/2020 - Version 2 with respect to PDD version 11 dated 08/06/2020	PP
6	DOE	/CPM/	TÜV NORD JI / CDM Certification Program Manual (incl. procedures and forms)	TÜV NORD JI / CDM Certification Program Manual (incl. procedures and forms)	TÜV NORD
7	IPCC	/IPCC/	IPCC	<ul style="list-style-type: none"> IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000 Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual 	IPCC Website
8	UNFCCC	/KP/	Kyoto Protocol (1997)	-	UNFCCC
9	UNFCCC	/MA/	Marrakesh – Accords	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))	UNFCCC
10	UNFCCC	/METH/	ACM0001 ver 19 “Flaring or use of landfill gas”	https://cdm.unfccc.int/methodologies/DB/JPYB4DYQUXQPZLBDVPHA87479EMY9M	UNFCCC
11	UNFCCC	/PCP/	CDM project cycle procedure	CDM project cycle procedure for project activities, version 2.0 EB 101, Annex 16 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20181221092024737/PC_proc03v02.pdf	UNFCCC
12	UNFCCC	/PDD-T/	Project Design Document Form	Project Design Document Form (CDM-PDD-FORM) - Version 11 including Attachment: Instructions for filling out the project design document form for CDM project activities	UNFCCC
13	UNFCCC	/PS/	CDM project standard	CDM project standard for project activities Version 02.0 EB 101 Annex 1 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20181221092046526/Reg_stan04v02.pdf	UNFCCC
14	UNFCCC	/TL/	Methodological Tool	<ul style="list-style-type: none"> TOOL02 “Combined tool to identify the baseline 	UNFCCC

No.	Author	Reference	Title	References to the document	Provider
				<p>scenario and demonstrate additionality" (Version 07.0) (hereafter also referred to as "Additionality tool").</p> <ul style="list-style-type: none"> • TOOL03 "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" (Version 03.0). • TOOL04 "Emissions from solid waste disposal sites" (Version 08.0). • TOOL05 "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" (Version 03.0). • TOOL06 "Project emissions from flaring" (Version 03.0). • TOOL08 "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" (Version 03.0): • TOOL11 "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" (Version 03.0.1). <p>https://cdm.unfccc.int/Reference/tools/index.html</p>	
15	UNFCCC	/ASB/	Standardized Baseline	Standardized Baseline: Grid emission factor for the Southern Africa power pool (ASB0040-2018, Version 01.0). https://cdm.unfccc.int/methodologies/standard_base/index.html	UNFCCC
16	UNFCCC	/VAL/	Validation Report	Validation Report for the CDM project "Joburg Landfill Gas to Energy Project", version 04.2, dated 07/11/2012	PP
17	UNFCCC	/VVS/	CDM Validation and Verification Standard	CDM validation and verification standard for project activities Version 02.0 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20170502114945162/reg_stan06.pdf	UNFCCC
18	UNFCCC	/VER/	Previous periodic Verification Documents	Previous verification documents viewed from the project page https://cdm.unfccc.int/Projects/DB/BVQI1343063541.26/view	UNFCCC
19	PP	/dna/	Department of Mineral Resources and Energy, Republic of South Africa	http://www.energy.gov.za/home.html	PP
20	PP	/CD/	Pikitup. 2019. Survey Report_closure dates_pg		PP

No.	Author	Reference	Title	References to the document	Provider
			11		
21	Republic of South Africa	/LAW/	<ul style="list-style-type: none"> • Energ-G Amended and Reinstated Agreement Nov 2013_pg 17 • National Environmental Management_Waste Act 59 of 2008 • National Environmental Management_Waste Amend Act of 2014 • National Norms and Standards waste disposal 2177_pg 44 		PP
22	Diverse	/EGP/	<ul style="list-style-type: none"> • Gas Analyser A5E37100388-003_ULTRAMAT_23 • A1700_Electricity generation meter • ACORP DEM024 Data Electricity Hour Meter_Elec consumption • CBI EC330 Electricity Hour Meter_pg1 use EC100 series • Cert. Thermometer Digital with Probe TE8062 020419-020421 • GUARDIAN NG Manual (1V06_16)_Gas Analyser • Manual E&H Proline t-mass 65l Flow Meter • SIEMENS Biogas Analyser - Flare - Calibration Detail • UV Sensor 		PP
23	Department of Environmental Affairs Republic of South Africa	/WP/	<ul style="list-style-type: none"> • Waste Permit Ennerdale_2009_12-9-11-L53-3 • Waste Permit Goudkoppies_2004_16-2-7-C221-D11-Z1-P15 • Waste Permit Linbro_2003_16-2-7-A210-D173-Z1-P1 • Waste Permit Marie Louise_2003_16- 		PP

No.	Author	Reference	Title	References to the document	Provider
			27-C221-D11-Z3-P65 • Waste Permit_Robinson Deep_2004_16-2-7-C221-D11-Z2-P22		

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CLs from this validation

CL ID	01	Section no.	B.5	Date:	05/05/2020
Description of CL					
Clarify in line with PS, 280 if the update of the additionality was necessary					
Project participant response (1st round)					Date: 08/06/2020
In accordance with the CDM project standard for project activities, Version 02.0, the editorial amendments, related to the changing of the version number of the methodology and updating the project milestones in Table B.5.6, to section B.5 have been removed and the original copy of the registered PDD has been reinstated.					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.5		New version No.: 11	
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment (1st round)					Date: 09/06/2020
The Additionality was not revised nor updated. This is in line with PS paragraph 280.					
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

Table 2. CARs from this validation

CAR ID	01	Section no.	PDD	Date:	05/05/2020
Description of CAR					
Following editorial issues, related to "Compliance of the monitoring report with the monitoring report form", were identified:					
<ol style="list-style-type: none"> 1. The Name of project participant on the cover page is incorrect. 2. The ACM0001 version in section B.6.1 3. The versions of the tools was not used in line with procedures described in section B.1 4. <i>Tool to determine project emissions from flaring gases containing methane, version 3</i>" was not listed in section B.1. 					
Project participant response (1st round)					
<ol style="list-style-type: none"> 1. The name of the project participant has been revised on the cover page of the PDD. 2. The ACM0001 version in section B.6.1 has been corrected. 3. The PDD was revised so that the versions of the tools was used in line with procedures described in section B.1. 4. The name of the "Tool to determine project emissions from flaring gases containing methane" was updated by the CDM to TOOL06 "Project emissions from flaring" (Version 03.0), which is listed in section B.1. 					
Documentation provided by project participant (1st round)					Date: 08/06/2020
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): Cover page; A.4, B.1		New version No.: 11	
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	

<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		
DOE assessment (1st round)		Date: 07/06/2020
<ol style="list-style-type: none"> 1. The Name of project participant on the cover page was correct and is identical with the name published on the UNFCCC page. 2. The ACM0001 version in section B.6.1 was corrected to applied version 19. 3. The versions of the tools used were corrected and are in line with procedures described in section B.1. 4. <i>Tool to determine project emissions from flaring gases containing methane, version 3</i> was included in section B.1. 		
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed

CAR ID	02	Section no.	A.1	Date:	05/05/2020
Description of CAR					
The GEF for SAPP is used in the baseline. The identified boundary is incorrect.					
Project participant response (1st round)					
<i>The boundary in the PDD has been revised accordingly so that it refers to the Southern African Power Pool.</i>					
Documentation provided by project participant (1st round)					Date:
					08/06/2020
<input type="checkbox"/> Changes in the PDD	Section(s):		A.1, B.3	New version No.: 11	
<input type="checkbox"/> Changes in MR	Section(s):			New version No.:	
<input type="checkbox"/> Changes in XLS	Worksheet(s):			New version No.:	
<input type="checkbox"/> Other:					
DOE assessment (1st round)					Date:
					09/06/2020
The identified boundary was correct to all power plants connected to the system and extended to SAPP.					
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CAR ID	03	Section no.	B.1	Date:	05/05/2020
Description of CAR					
<ol style="list-style-type: none"> 1. The list of tools applied is incomplete. 2. The reference to UNFCCC CDM was not provided (PS para 279a) 					
Project participant response (1st round)					
<ol style="list-style-type: none"> 1. The PDD has revised to include the full list of applied tools. 2. The reference to UNFCCC CDM (PS para 279a) is provided in the revised PDD. 					
Documentation provided by project participant (1st round)					Date:
					08/06/2020
<input type="checkbox"/> Changes in the PDD	Section(s):		B.1	New version No.: 11	
<input type="checkbox"/> Changes in MR	Section(s):			New version No.:	
<input type="checkbox"/> Changes in XLS	Worksheet(s):			New version No.:	
<input type="checkbox"/> Other:					
DOE assessment (1st round)					Date:
					09/06/2020
The list of tools in section B.1 was completed as per methodology.					
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CAR ID	04	Section no.	B.2	Date:	05/05/2020
Description of CAR					
<ol style="list-style-type: none"> 1. The applicability conditions are not complete. Not all applied tools were analysed. 2. The applicability of criteria: <ol style="list-style-type: none"> 3b, 3d, 4d, of the methodology are incorrect. 3. Not all applicability conditions from the tools were analysed. 4. Moreover the format of the section, separation of criteria of methodology and tools is inconsistent. 					
Project participant response (1st round)					

1. The table in section B.2 has been revised to include all tool applicability conditions and analysed against these conditions.
2. The applicability of criteria 3b, 3d, and 4d of the methodology were revised in the table in B.2.
3. The table in section B.2 has been revised to include analyses against all tool applicability conditions.
4. The table in section B.2 was formatted so that the conditions and analyses are consistently presented.

Documentation provided by project participant (1 st round)		Date: 08/06/2020
<input type="checkbox"/> Changes in the PDD	Section(s): B.2	New version No.: 11
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1 st round)	Date: 09/06/2020
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1. The PDD was revised. The applicability conditions of the methodology, all applied tools and standardized baseline, were completed.
2. The PDD was revised. The applicability of criteria 3b, 3d, 4d of the methodology were reassessed and found correct.
3. The PDD was revised. All applicability conditions from all applied tools were analysed.
4. The format of the section, separation of criteria of methodology and tools was revised and found consistent.

Additionally:

5. Clarification is requested in regards to the selection of the option A of the paragraph 5 of TOOL05.
6. In the PDD still the incorrect name of the TOOL05 (Baseline, project and/or...) is used.

Project participant response (1 st round)
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5. Applicability condition 15 has been revised to reflect the selection of Scenario A (as per paragraph 5 of TOOL05). Scenario C applies to the project because the landfills may use standby diesel generators (captive power plants) for on-site power backup for the flares. The diesel generators. Hence, the project can be provided with electricity from the captive power plant(s) and the grid.
6. Revised the name in section B.6.1 to the corrected name where reference is made to TOOL05

Documentation provided by project participant (1 st round)		Date: 23/06/2020
<input type="checkbox"/> Changes in the PDD	Section(s): B.2, B.6.1	New version No.: 12
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1 st round)	Date: 27/06/2020
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5. The applicability criterion on the paragraph 5 of TOOL05 "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" (Version 03.0) was revised to option C. The SWDS may use diesel generators as a back up for own electricity consumption.
6. the name of the TOOL05 "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" (Version 03.0) was corrected in the PDD.

Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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CAR ID	05	Section no.	B.3	Date: 05/05/2020
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Description of CAR

1. The definition of the project boundary is missing
2. The format of the table used is not consistent with PDD template nor applied versions of methodology.
3. The flow diagram or project set-up is incomplete.

Project participant response (1 st round)
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1. The definition of the project boundary has been provided in B.3.
2. The format of the table in B.3 has been revised so that is consistent with the methodology.
3. The flow diagram has been revised so that it includes reference to the Southern African Power Pool grid.

Documentation provided by project participant (1 st round)		Date: 08/06/2020
<input type="checkbox"/> Changes in the PDD	Section(s): B.3	New version No.: 11

<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		
DOE assessment (1st round)		Date: 09/06/2020
<ol style="list-style-type: none"> 1. The definition of the project boundary was added and found applicable to the project. 2. The format of the table used was revised and is consistent with applied versions of methodology and PDD template. 3. The flow diagram or project set-up was revised including SAPP and found complete. 		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

CAR ID	06	Section no.	B.4	Date: 05/05/2020
Description of CAR				
<ol style="list-style-type: none"> 1. Description and relevance to future waste disposal of relevant national and/or sectoral laws is missing. 2. The identified baseline as "displacement" is incorrect. 				
Project participant response (1st round)				
<ol style="list-style-type: none"> 1. The description of relevant national and/or sectoral laws was included in the PDD (the referenced laws are provided). The relevance of these laws, with respect to the project operations and to future waste disposal volumes was also included. The only restrictions applicable to this project activity are those regarding the disposal of garden waste on landfill sites. General landfills are required to reduce the volumes of garden waste accepted by 50% by 2023. The landfills are owned by Pikitup, a state-owned enterprise. As such, Pikitup is required to comply with all applicable laws and regulations and thus the expected garden waste volumes (see ex-ante emission reduction calculations) have been reduced so that they are aligned with the requirements of the regulations. 2. The baseline description has been updated to align with the wording in ACM0001 version 19.0, paragraph 23. 				
Documentation provided by project participant (1st round)				Date: 08/06/2020
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.4		New version No.: 11	
<input type="checkbox"/> Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/> Changes in XLS	Worksheet(s): Waste data (Marie Louise); Waste data (Goudkoppies); Waste data (Enerdale); Waste data (Robinson Deep); WasteDiversio		New version No.: 2	
<input type="checkbox"/> Other:				
DOE assessment (1st round)				Date: 09/06/2020
<ol style="list-style-type: none"> 1. Description and relevance to future waste disposal of relevant national and/or sectoral laws was provided. Following laws and regulation were reviewed: <ul style="list-style-type: none"> • National Environmental Management_Waste Act 59 of 2008 • National Environmental Management_Waste Amend Act of 2014 • National Norms and Standards waste disposal 2177_pg 44 • Energ-G Amended and Reinstated Agreement Nov 2013_pg 17 The Analysis of the national law reviled the national requirements to reduce the disposal of garden waste on landfill. As a result of the reassessment the updated ex-ante calcs (see the Waste Data tabs per site was provided. 2. The description of identified baseline was revised. The baseline is the atmospheric release of the landfill gas and the generation of electricity in existing grid-connected power plants. 				
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CAR ID	07	Section no.	B.6.1	Date: 05/05/2020
Description of CAR				

1. The equation 3 of ACM0001 v.19 is incorrect.
2. The least efficient destruction device for calculation of $F_{CH_4,FL,y}$ was not identified.
3. The question for $PE_{flare,y}$ was not provided as part of the equation $F_{CH_4,flared,y}$.
4. The version of tool in Option F is incorrect.
5. The explanation of the equation Density of GHG i was not provided.
6. The GHG considered as part of methodological choices shall be selected (see simplification above).
7. The MAP/PET in selection of k_j was not provided.
8. The justification for use of ASB0040 was not provided.
9. The justification for use of the Option B from the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" was not provided.
10. Project emission of flaring is not part of the general PE equation. The $PE_{flare,y}$ is part of equation 4 far above. This was not explained here (explain clearly or move to section above).
11. Provide equation for $PE_{flare,y}$ (tool: project emission from flaring.)

Project participant response (1st round)

1. Equation 3 of ACM0001 has been corrected in the PDD.
2. The least efficient destruction device for calculation of $F_{CH_4,FL,y}$ is only relevant when a single flow meter is used. This does not apply as there are separate meters measuring gas flow to each methane destruction or utilisation device, on each landfill site in the project activity.
3. The equation for $PE_{flare,y}$ has been provided in the section
4. The version of the tool for Option F has been corrected.
5. The expansion of the formula was an error. The equation has been revised to align with the equation listed in the Mass Flow tool, version 2.
6. The selection of methane was included in the revised PDD with an explanation that it is the monitored GHG, as per ACM0001 v19.
7. The MAP/PET in selection of k_j was provided. The values for k_j have not changed since the initial registration therefore the MAP/PET has not changed since then.
8. Justification for the use of ASB0040 has been provided. The standardized baseline is applied in accordance with paragraph 50 of the project standard and paragraph 4 of the standardized baseline. ASB0040 is a mandatory Standardized Baseline and as such has been used in the calculations.
9. The justification for using Option B has been provided: the chemical composition of the fuel is not readily available and hence Option B is used.
10. The explanation for $PE_{flare,y}$ has been moved to the correct section.
11. The equation for $PE_{flare,y}$ has been provided as per the tool "Project emissions from flaring".

Documentation provided by project participant (1st round)**Date:** 08/06/2020

<input type="checkbox"/> Changes in the PDD	Section(s): B.6.1	New version No.: 11
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		

DOE assessment (1st round)**Date:** 09/06/2020

1. The equation 3 of ACM0001 v.19 was corrected in line with methodology.
2. Under the project the gas flow to each of the destruction device will be measured by flow meter. Therefore the identification of the least efficient destruction device for calculation of $F_{CH_4,FL,y}$ is not required.
3. The question for $PE_{flare,y}$ was now provided as part of the equation $F_{CH_4,flared,y}$.
4. The version of tool in Option F was revised to latest version 03.0.0.
5. The Density of GHG i equation was revised in line with applied tool.
6. In line with methodological choices simplification the volumetric fraction of only methane is selected and considered in the molecular mass flow.
7. For transparency the MAP/PET in selection of k_j was explained.
8. The justification for use of ASB0040 was provided in line with project standard.
9. The justification for use of the Option B, in case the data for use of option A is not available, from the from the Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion was provided.
10. Project emission of flaring is not part of the general PE equation and therefore was presented under the equation 4 of ACM0001, v19 in the section above.
11. The equation for $PE_{flare,y}$ (tool: project emission from flaring) was provided (refer to point 10 above).

Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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CAR ID	08	Section no.	B.6.2	Date:	05/05/2020	
Description of CAR						
<ol style="list-style-type: none"> 1. The choice of data for parameter K_j was not specified. 2. The choice of data for parameter MM_i was not specified. 3. Parameter Flare efficiency was not listed. 						
Project participant response (1st round)						
<ol style="list-style-type: none"> 1. The values for K_j have been included in the revised PDD. 2. The choice of data for MM_i has been specified as methane. 3. The parameter table for flare efficiency has been included as a fixed parameter. 						
Documentation provided by project participant (1st round)					Date:	08/06/2020
<input type="checkbox"/>	Changes in the PDD	Section(s): B.6.2		New version No.: 11		
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:		
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:		
<input type="checkbox"/>	Other:					
DOE assessment (1st round)					Date:	09/06/2020
<ol style="list-style-type: none"> 1. The choice of data for parameter K_j was specified. The values were provided. 2. The choice of data for parameter MM_i was specified. In line with simplification molecular mass of only Methane was provided. 3. Parameter Flare efficiency $\eta_{flare,m}$ was added to the list of parameters. 						
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

CAR ID	09	Section no.	B.7.1	Date:	05/05/2020
Description of CAR					
<ol style="list-style-type: none"> 1. General: for each parameter follow the requirements of the template guideline and PS. 2. The Measurement methods for Management of SWDS was not provided. 3. The Source of data, standard to be applied, accuracy class, calibration for parameter Op_{jh}, $EG_{PJ,y}$, $T_{EG,m}$, $EC_{PJ,j,y}$, MT_{wb}, $Flame_m$ was not provided. 					
Project participant response (1st round)					

1. The PDD has been revised to include the requirements of the PDD template guideline and the guidance in the CDM Project Standard, version 2.
2. The copy in the 'Measurement methods' field of the 'Management of SWDS' data parameter has been revised so that it is aligned with the wording in ACM0001 version 19.
3. With respect to the monitored data parameter tables:
 - a. The accuracy class of the respective meters has been included under 'Measurement methods' field in accordance with the PDD template.
 - b. The calibration frequencies have been included in the 'QA/QC procedures' in accordance with the PDD template.
 - c. The sources of data have been provided (mostly in accordance with the ACM0001 version 19 methodology).

Documentation provided by project participant (1st round)		Date: 08/06/2020
<input type="checkbox"/> Changes in the PDD	Section(s): B.7.1	New version No.: 11
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
Other: <ul style="list-style-type: none"> - A5E37100388-003_ULTRAMAT_23 Gas Analyser_pg36 - A1700_Electricity generation meter_pg1 - ACORP DEM024 Data Electricity Hour Meter_Elec consumption_p2 - CBI EC330 Electricity Hour Meter_pg1 use EC100 series - Cert. Thermometer Digital with Probe TE8062 020419-020421 - Electricity generation meter not calibrated (email) - GUARDIAN NG Manual (1V06_16)_Gas Analyser_pg29 - Manual E&H Proline t-mass 65I Flow Meter_pg70 - SIEMENS Biogas Analyser - Flare - Calibration Detail - UV Sensor_pg2 - WI-ES-ROB-33 Rev 00 Thermocouple Test Procedure Form 		
DOE assessment (1st round)		Date: 09/06/2020
<ol style="list-style-type: none"> 1. The requirements of the template guideline and PS were followed. The parameter table were completed as per guideline. 2. The Measurement methods for Management of SWDS were provided. 3. The Source of data, standard to be applied, accuracy class, calibration for parameter Op_{jh}, $EG_{PJ,y}$, $T_{EG,m}$, $EC_{PJ,y}$, MT_{wb}, $Flame_m$ were provided. Additionally; <ol style="list-style-type: none"> 4. The equivalence of parameter $EC_{BL,k,y}$ with the monitored parameter $EG_{PJ,y}$ is missing. 5. The test frequency of the thermocouples for the monitoring of the parameter $Op_{j,h}$ is contradicting. 		
Project participant response (2nd round)		Date: 23/06/2020
<ol style="list-style-type: none"> 4. The equivalence of parameter $EC_{BL,k,y}$ with the monitored parameter $EG_{PJ,y}$ has been stated in 5. The test frequency of the thermocouples for the monitoring of the parameter $Op_{j,h}$ has been corrected. 		
Documentation provided by project participant (2st round)		Date: 23/06/2020
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.7.1	New version No.: 12
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		
DOE assessment (1st round)		Date: 09/06/2020
<ol style="list-style-type: none"> 4. The clarification on monitoring parameter $EC_{BL,k,y}$ and equivalent parameter $EG_{PJ,y}$ was provided in the parameter table. 5. The test frequency of the thermocouple was revised to every 3 months. The frequency was defined in line with manufacturers specification. 		
Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

Table 3. FARs from this validation

FAR ID	xx	Section no.	Date: DD/MM/YYYY
Description of FAR			
-			
Project participant response			Date: DD/MM/YYYY

Documentation provided by project participant	
DOE assessment	Date: DD/MM/YYYY

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN);• Make editorial improvements.
02.0	31 October 2017	Revision to align with the requirements in the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Registration Keywords: post-registration change, project activities, validation report		