



VERIFICATION REPORT FOR JOBURG LANDFILL GAS TO ENERGY PROJECT



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Client	ENERGY Joburg RF (PTY) Limited
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Summary:

The client ENERGY Joburg RF (PTY) Limited has appointed the validation/verification body Carbon Check (India) Private Ltd. to perform a verification of VCS Project Activity “Joburg Landfill Gas to Energy Project” in South Africa (hereafter “project activity”) for the period from 01 January 2023 to 30 November 2023.

The project proponent applied the approved CDM Methodology: ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas, Version 19. In addition, the applicable tools referenced in the methodology and the PD have been used.

The verification consisted of the following three phases: i) a desk review of the Monitoring Report ii) Onsite Visit; iii) the resolution of outstanding issues and internal technical review followed by the issuance of the final verification report and opinion. In the course of the verification process 13 CARs, 08 CLs and 00 FARs were raised, all the CARs and CLs are closed. No FARs were raised during the course of verification. The list of Clarification and Corrective Actions Requests (CL and CAR) is presented in this report.

CC IPL confirms that the project is implemented in accordance with the validated VCS-PD and the monitoring plan; and then, claimed emissions reductions are calculated without material misstatements. No uncertainties associated with the calculations of emission reductions have been observed by the validation team.

CC IPL has performed the verification of Joburg Landfill Gas to Energy Project on the basis of all issues and criteria of VCS Standard version 4.5/B01-1/ and VCS Program Guide version 4.4/B01-2/ for VCS projects and also on the criteria given to provide for consistent project operations, monitoring and reporting. Hence, in CC IPL’s opinion the project correctly applies the baseline and monitoring methodology ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas, Version 19/B02/ and meets the relevant UNFCCC requirements for the CDM Methodology, Voluntary Carbon Standard requirements and the relevant host country criteria.

Therefore, CC IPL is able to certify that the emissions reductions from the “Joburg Landfill Gas to Energy Project” project during the period from 01 January 2023 to 30 November 2023 amount to 149,536 tonnes of CO₂e. The year-wise break up of verified emission reduction is as below:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2023 (01 January 2023 – 30 November 2023)	149,788	252	0	149,536
Total	149,788	252	0	149,536

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1 INTRODUCTION

1.1 Objective

ENERGY Joburg RF (PTY) Limited (Project Proponent) has appointed CCIPL for verification service for the registered VCS project - “Joburg Landfill Gas to Energy Project” (VCS Project ID 1240) located in South Africa against the requirements of the VCS Program.

Verification is the periodic independent review and ex post determination of both quantitative and qualitative information by a Validation and Verification Body (VVB) of the monitored reductions in GHG emissions that have occurred as a result of the VCS project activity during a defined monitoring period. The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in emissions is sufficient, definitive and presented in a concise and transparent manner. Carbon Check’s objective is to perform a thorough, independent assessment of the registered projects activities. In particular, the monitoring plan, monitoring report and the project’s compliance are verified against the relevant criteria and guidance documents provided by VCS. This allows for the confirmation that the project has been implemented in accordance with the registered VCS PD and conservative assumptions, as documented. And, also to confirm if the monitoring plan is in compliance with the VCS PD /B04/and approved monitoring methodology/B02/. The objective of this verification was to verify and certify emission reductions reported for the “Joburg Landfill Gas to Energy Project” for the period from 01 January 2023 to 30 November 2023.

1.2 Scope and Criteria

The verification of this project is based on the registered Project Description/B04/, the Monitoring Report of this monitoring period /01/, emission reduction calculation spread sheet /03/, supporting documents made available to the verifier and information collected through performing interviews and during the onsite visit assessment. Furthermore, publicly available information was considered as far as available and required.

Carbon Check has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

The verification is carried out on the basis of the following requirements (latest available on VCS website at the time of verification), applicable for this project activity:

- VCS Standard version 4.5
- VCS Program Guide version 4.4
- VCS Validation and Verification Manual version 3.2

- Program Definitions (v4.4)
- Registration & Issuance Process (v4.4)
- Approved CDM methodology (ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas, Version 19)
- Other relevant rules, including the host country legislation

The scope of this verification, by independent checking of objective evidence, is as follows:

- To verify that the project is implemented as described in the project description
- To assess the project's compliance with other relevant rules including the host country legislation.
- To assess the implementation of the monitoring plan content as mentioned in the registered VCS-PD
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions (VERs/VCUs) without any double counting and
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation /03/, /04/.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

The method and criteria used for verification consisted of the following phases:

1. Completeness check and desk review:
2. Onsite Visit;
3. Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation.

Carbon Check (India) Private Ltd. conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification VVBs not provide any consulting or recommendations for the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

1.3 Level of Assurance

- ☒ Reasonable level of assurance
- ☐ Limited level of assurance

The level of assurance of the verification report falls under reasonable assurance engagements as selected by the Client. The verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors.

1.4 Summary Description of the Project

The project activity 'Joburg Landfill Gas to Energy Project' is a VCS project activity and involves collection and utilisation of the landfill gas at the Johannesburg landfill sites located in Johannesburg, South Africa. The objective of the project is to collect and destroy/utilise the LFG generated at five Johannesburg landfill sites. Prior to implementation of the project activity, the LFG was being freely emitted into the atmosphere resulting in GHG emissions. In the baseline scenario, the LFG would have been released into the atmosphere resulting in GHG (CH₄) emissions to the atmosphere. The electricity would have been produced in the fossil fuel based South African grid resulting in CO₂ emissions.

The project includes five sites. The Robinson Deep flare was commissioned on 27 May 2011 and electricity generation was commissioned on 26 November 2016. The Marie Louise landfill site flare was commissioned on 04 May 2012 and electricity generation was commissioned on 25 January 2018. The Goudkoppies flare and electricity generation components were commissioned on 25 April 2017. The last two sites, namely Linbro Park and Ennerdale sites, are currently not constructed and will remain within the basket of projects, subject to economic drivers required to commit to build these sites.

The reported monitoring period for the project activity is from 01 January 2023 to 30 November 2023. This is the second monitoring period under VCS.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The method and criteria used for verification:

The verification consists of the following three phases:

1. Completeness check and desk review of the validation report, monitoring plan, monitoring report, monitoring methodology, VCS PD, applicable tools in particular attention to the frequency of measurements, quality of metering equipment's including calibration requirements, QA/QC procedures, any changes to the project activity and new project activity instances and other relevant documents;

2. Onsite visit (including follow-up interviews with project stakeholders, when deemed necessary). The onsite visit assignment includes the following;
- An assignment of implementation and operation of project activity with respect to validated VCS PD;
 - Review of information flows for generating, aggregating and reporting the monitoring parameters;
 - Interview with relevant personals to determine whether the operational and data collection procedures are implemented and in accordance with monitoring plan of the validated VCS PD;
 - Cross check of information and data provided in the monitoring report with plant logbooks, inventories, purchase records or similar data sources;
 - Check of monitoring equipment's, calibration frequency and monitoring practice in-line with methodology and validated VCS PD;
 - Review of assumptions made in calculating the emission reduction;
 - Implementation of QA/QC procedure in-line with the validated VCS PD and methodology requirement.

2.2 Document Review

The registered VCS PD/B04/, VCS MR /01/, /02/, emission reduction calculation spread sheet /03/, /04/ and supporting documents related to the project implementation, project design, monitoring and baseline were reviewed as per VCS standard version 4.5 requirements. The desk review included:

- A review of the data and information presented to verify completeness and consistency in accordance with VCS standard version 4.5 requirements/B01/;
- A review of the approved monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, quality of monitoring equipment (including calibration requirements) and the quality assurance and quality control (QA/QC) procedures;
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of emission reductions.

Data input values were also checked from the records maintained by the project proponents. Results of calculations reported in the monitoring report were checked against data values as available from the project proponent in VER calculation sheet /03/, /04/.

These data values and other information related to project performance are available in the form of data records duly archived and maintained as per the quality assurance/quality control procedure specified as a part of monitoring plan in the registered VCS-PD.

Furthermore, the verification 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.

2.3 Interviews

A physical onsite visit to the project activity was undertaken from 16/01/2024 to 17/01/2024 to assess the implementation and operation of the project activity and to review evidence, and interview key personnel to confirm evidence associated with the data generation, aggregation, and calculation and reporting of the monitoring parameters. The onsite visit assessment addressed:

- An assessment of the project implementation and operation as per the PD (including physical inspection to confirm physical existence and operation of project components);
- Review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the monitoring report /01/, /02/.

The key personnel interviewed, and the main topics of the interviews are summarized in the table below.

S. No.	Name	Organization	Topic	Audit team members
/i/	David Cornish (General manager of the group responsible for the overall operations for the group of companies)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system, Collection of measurements, Observations of established practices, Testing of the accuracy of monitoring equipment, Data and information flow, Data Verification of monitoring parameters, On-site Flare operation, Operational parameters, Electricity Generation and supply to the Eskom grid, Metering of the electricity, Thermocouple functionality and CER calculation	Anubhav Dimri (Team leader/Technical Expert), Kiran K V (Team member)
/ii/	Christopher Doff (Engineering and design of the site and gas collection systems and project management of gas field works)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, Project design, monitoring procedure, data and information flow, compliance of monitoring plan with monitoring methodology and approved VCS-PD, Roles and responsibility, Qualification and Training, CER calculation and completeness of monitoring report, Electronic Monitoring system, Data collection and data flow	Anubhav Dimri (Team leader/Technical Expert), Kiran K V (Team member)
/iii/	Eric Ramalebane (Senior site)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system	Anubhav Dimri (Team leader/Technical

	technician responsible for routine and corrective maintenance, gas balancing, plant and instrument servicing and gas field expansion works)			Expert), Kiran K V (Team member)
/iv/	Kamohelo Soeisane (Site technician responsible for a sites cleanliness, gas balance and preventative maintenance on the site)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system	Anubhav Dimri (Team leader/Technical Expert), Kiran K V (Team member)
/v/	Bruno Matsila (Health Safety environment and socio-economic development officer Responsible for HSE and social projects)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system	Anubhav Dimri (Team leader/Technical Expert), Kiran K V (Team member)
/vi/	Xavier Pretorig (Maintenance engineer for ENERGY Construction Services responsible for routine and scheduled maintenance of the flares and electricity generation plant and ancillaries)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system	Anubhav Dimri (Team leader/Technical Expert), Kiran K V (Team member)

2.4 Site Visits

Carbon Check has conducted an onsite visit for the assessment of the project activity. A reasonable level of assurance has been maintained through the onsite visit for the purpose of verification as follows:

- 1) An assessment of the implementation and operation of the project activity as per the registered VCS PD /B04/
- 2) A review of information aggregating and reporting of the monitoring parameters
- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the MP (section 2.3 above)
- 4) A cross-check between the emission reduction information provided in the MR /01/ and data from other sources (section 2.3 above).
- 5) A check of the monitoring equipment for calibration performance, and observations of monitoring practices against the requirements of the VCS PD and the applied monitoring methodologies /B02/
- 6) A review of calculations and assumptions made in determining the GHG data and ERs /02//04/, and
- 7) An identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters.
- 8) The duly calibration/testing of all monitoring equipment was checked.
- 9) The monitoring processes, routines and documentations were audited to check their proper application.
- 10) The monitoring data were checked completely.

2.5 Resolution of Findings

Material discrepancies identified in the course of the verification are addressed either as CARs, CLs or FARs. **Corrective action requests (CAR)** are issued, where:

- i. Mistakes have been made with a direct influence on project results requiring adjustments of the VERs/VCUs monitoring report;
- ii. Applicable methodological specific requirements have not been met.

A **Clarification request (CL)** may be used where additional information is needed to fully clarify an issue or where the information is not transparent enough to establish whether a requirement is met.

A **forward action request (FAR)** should be issued, where:

- i. The actual project monitoring and reporting practices requires attention and /or adjustment for the next consecutive verification period, or
- ii. An adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of high-quality emissions reductions in the future, i.e. by deviations from standard procedures as defined by the MP. As a consequence, such aspects should receive a special focus during the next consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions.

A total of 13 CARs and 08 CLs had been raised for the verification of the project activity and all the findings have been closed.

2.5.1 Forward Action Requests

There are no forward action requests raised during the validation of the project activity.

2.6 Eligibility for Validation Activities

Validation/Verification body (VVB), Carbon Check (India) Private Ltd. holds accreditation for validation for the relevant sectoral scope 13 and is eligible for validation/verification for the project activity.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

No methodology deviations have been applied to the project activity during the reported monitoring period.

3.2 Project Description Deviations

No project description deviations have been applied to the project activity during the reported monitoring period.

3.3 New Project Activity Instances in Grouped Projects

This is not a grouped project. The project activity contains multiple project activity instances which were validated, and no additional instances have been added.

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3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes

☒ No

4 VERIFICATION FINDINGS

4.1 Project Details

Item	Evidence gathering activities, evidence checked, and assessment conclusion:
Audit history	PP has provided the audit history in section 1.2 of MR. The verra/CDM registry page has been reviewed to confirm that the information provided in the MR is accurate. The number of years corresponding to each verification period has been accurately provided in the audit history table
Double counting and participation under other GHG programs	The project activity is registered with UNFCCC with registration number 6797. The issuance history of the project activity is provided in MR. The declaration of no double counting and participation under other GHG programs provided by PP/26/ has been reviewed to confirm the same.
No double claiming with emissions trading programs or binding emission limits	PP, In MR has declared that the project activities does not included in any emission trading program or binding emission limit which has been confirmed on the basis of independent research and on-site interviews of the responsible parties.
No double claiming with other forms of environmental credit	PP, In MR has declared that the project activities does not claim any other form of environmental credit which has been confirmed on the basis of independent research and on-site interviews of the responsible parties. The declaration of no double claiming with other forms of environmental credits provided by PP/25/ has been reviewed to confirm the same.
Supply chain (scope 3) emissions double claiming	PP, in MR has declared that the emission footprint of the electricity produced as part of the project activity are a part of supply chain (scope 2 emissions) and the project proponent is the buyer or seller of the product which is clearly defined in the “Amended and restated agreement relating to the collection, destruction and utilization of landfill gas at the Linbro park, Marie Louise, Goundkoppies, Ennerdale and Robinson deep landfill sites”/35/ that the carbon credit produced belong to the Energy Joburg RF (PTY) Limited.

Sustainable development contributions	Through the implementation of the project activity, the following SGDs have been achieved during the current monitoring period. SDG 13: Tonnes of greenhouse gas emissions avoided. The current project contribution is 149,536 tCO₂e which is consistent with the emission reduction value reported in the MR/02 and ER sheet/04/. The total project lifetime contribution value of 1,453,231 tCO₂e is the total emission reduction value achieved during the 1st and 2nd crediting period. SDG 3: Total LFG (Nm³/h) destroyed and/or utilized. The current project contribution is 5,266.1 CH₄ which is consistent with the value reported in the MR/02 and ER sheet/04. The total project lifetime contribution value of 57,667 ton CH₄ is obtained from total CO₂e value obtained over the project lifetime using. The calculation procedure provided in section 1.12 of MR is found to be accurate and therefore is deemed to be acceptable to VVB. SDG 3: Total CH₄ (tonnes) destroyed. The project has contributed to a reduction in greenhouse gas emissions contained in LFG by an average of 1,875 Nm³/hr over the project lifetime. The project contributions to the SGDs provided in the MR is found to be true based on the assessment of the calculation provided and previous monitoring reports. The SDG indicators defined in the registered PD has been consistently applied, monitored and reported in section 1.2 of MR/02/. VVB confirms that PP adheres to the requirement mentioned in para 3.17.1 of VCS standard version 4.5
Additional information relevant to the project	No commercially sensitive information is included in the project documents.

4.2 Safeguards and Stakeholder Engagement

4.2.1 Stakeholder Identification

Where the stakeholder makeup has changed since validation, use the table below to describe i) the evidence gathering activities for each item, ii) the evidence checked, and iii) the conclusion of the assessment of the project's conformance with the relevant VCS Program requirements. Where the rows do not apply, provide justification in the conclusion column.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	VVB has reviewed the EIA/EMP report/29/ and confirms that the stakeholder identification has been done appropriately. There is no change in stakeholder makeup since validation
Legal or customary tenure/access rights	The project site is under the ownership of City of Johannesburg/33/ and the gas use right is procured by the landfill gas project/33/ and therefore no conflict in assess rights observed
Stakeholder diversity and changes over time	As mentioned in the MR, the stakeholder diversity has been identified in the validation and there has been growing interest from academic institutions for the landfill gas project.
Expected changes in well-being	The project activity increased the air quality in the surrounding region compared to baseline scenario
Location of stakeholders	The location of stakeholders are within few kilometers of the landfill sites as evidenced by the EIA/EMP report/29/ and stakeholder consultation reports/34/
Location of resources	Not applicable.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Ongoing consultation	VVB has reviewed the environmental monitoring committee meetings/34/ reports and confirms that the ongoing communication are in place

Date(s) of stakeholder consultation	VVB has reviewed the environmental monitoring committee meetings/34/ reports and confirms that the ongoing communication meeting were conducted on 18-November-2022, 28-February-2023, 18-August-2022, and 17-November-2023 respectively.
Communication of monitored results	VVB has reviewed the environmental monitoring committee meetings/34/ reports and confirms that the monitored results are communicated in every meetings.
Consultation records	VVB has reviewed the attendance registers/34/, and minute of meetings/34/ and confirms that stakeholder consultation records are in place.
Stakeholder input	VVB has reviewed the stakeholder inputs/34/ and confirms that no major grievance has been received.

4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Consent	PP has undertaken the public participation process (PPP) as per NEMA EIA regulations and documented the outcomes in the EIA and EMP report/29/ which is reviewed by VVB to confirms that the project activity has met the FPIC method requirements.
Outcome of FPIC discussion	The outcome of the FPIC is documented in the EMP report which is reviewed by VVB/29/ to confirms the same.

4.2.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	VVB through site visit inspection, inspection and review of the grievance sheet/34/ confirms that no grievance was raised during the monitoring period.
Grievance redress procedure	VVB through site visit inspection, inspection and review of the grievance sheet/34/ confirms that no grievance was raised during the monitoring period.

4.2.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
24-February-2023 No comments received during this meeting.	None.	VVB has cross checked the public stakeholder comments/34/ received during the monitoring period and confirms that no comments were received during this consultation event.
19-May-2023 Mr Mabaso requested that Energy Systems representative must visit Jules Primary School to do a need assessment	Energy Joburg representative visited the school to conduct a need assessment study. No further action required.	VVB has cross checked the public stakeholder comments/34/ received during the monitoring period and confirms that all the comments were addressed appropriately.
18-August-2023 No comments received during this meeting	None	VVB has cross checked the public stakeholder comments/34/ received during the monitoring period and confirms that no comments were received during this consultation event.

07-November-2023 Rosettenville Central Primary School. Request for Sponsorship for tiling new built classrooms and offices.	ENERGY Joburg sponsored the school with tiling the classrooms and offices.	VVB has cross checked the public stakeholder comments/34/ received during the monitoring period and confirms that all the comments were addressed appropriately.
21-November-2023 Sedibathuto Primary School. Request Sponsorship of erecting a shelter for the assembly area.	ENERGY Joburg sponsored the school with an assembly area shelter	VVB has cross checked the public stakeholder comments/34/ received during the monitoring period and confirms that all the comments were addressed appropriately.

4.2.6 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Risks to stakeholder participation	There is no risk to stakeholder participation identified by the project participant as the stakeholder consultation is conducted by independent government registered practitioner
Working conditions	The risk identified which is “health and safety” and “employment equity” is mitigated by proper implementation of Employment act/32/ and occupational health and safety act/32/.
Safety of women and girls	No risk identified as the project is developed on existing landfill which was operation more than 40 years ago.
Safety of minority and marginalized groups, including children	No risk identified as the project is developed on existing landfill which was operation more than 40 years ago
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	The identified risk which is Noise and air pollution is mitigated through proper plant design which reduce the noise level below the threshold limit of 64 db at 10 m distance from the plant/30/. The project activity reduces odor in the locality compared to the baseline scenario and therefore leads to a net environmental benefit as per the EIA report/29/.

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination and sexual harassment	VVB during site visit and interviews confirms that the copies of employment equity policy/32/ has been posted at every site to reinforce the staff about their rights.
Management experience	The management of this project have been actively involved in landfill gas utilization projects for the past 16 years as the project start date is 27- May- 2011.
Gender equity in labor and work	VVB during site visit and interviews confirms that the copies of employment equity policy/32/ has been posted at every site to reinforce the staff about their rights.
Human trafficking, forced labor, and child labor	VVB during site visit and interviews confirms that the copies of employment equity policy /32/ has been posted at every site to reinforce the staff about their rights.

4.2.7.2 Human Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Human rights	VVB, through site visits and interviews confirms that the project activity complies with the South Africa constitution and the laws of the country such as Employment equity act/32/ and occupational health and safety act.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Preservation and protection	The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project

of cultural heritage	activity. VVB through interviews and site inspections observed that the project activity does not affect the cultural heritage.
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4.2.7.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	The ownership of the project activity belongs to City of Johannesburg as per the Implementation agreement/33/. It has been observed that there is no dispute regarding property rights, usage or resources.
Respect for property rights	Not applicable

4.2.7.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Summary of the benefit sharing plan	Not applicable
Benefit sharing during the monitoring period	Not applicable

4.2.8 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Impacts on biodiversity and ecosystems	<i>The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity.</i>
Soil degradation and soil erosion	<i>The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity.</i>
Water consumption and stress	<i>The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity. Moreover, water is not used in the project process</i>
Usage of fertilizers	<i>The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity. Moreover, fertilizers are not used in the project activity.</i>

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity. Based on the review of the EIA report/29/, it has been observed that there is no observable impact on rare, threatened, and endangered species.

4.2.8.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
NA	The project activity does not include planting or introduction of species

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
NA	Not applicable

4.2.8.3 Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	As the project activity is not ARR, ALM, WRC, pr ACoGS. It is not applicable.

4.3 Accuracy of Reduction and Removal Calculations

Baseline Emissions

The baseline emissions are determined according to equation (1) of the applied methodology:

$$BE_y = BE_{CH,y} + BE_{EC,y} + BE_{HG,y} + BE_{NG,y} \quad (\text{Equation 1 of ACM0001, v19})$$

Where

$BE_{CH,y}$ Baseline emissions of methane from the SWDS ($BE_{CH4,y}$)

$BE_{EC,y}$ baseline emissions associated with electricity generation

$BE_{HG,y}$ there was no use of methane for heating: Value is 0.

$BE_{NG,y}$ there was no upgrading and use of methane for natural gas: Value is 0.

$$BE_y = 149,788 \text{ tCO}_2\text{e}$$

Baseline emissions of methane from the SWDS ($BE_{CH4,y}$)

Baseline emissions of methane from the SWDS are determined according to equation (2) of the applied methodology:

$$BE_{CH4} = \left((1 - OX_{toplayer}) \times F_{CH4,PJ,y} - F_{CH,BL,y} \right) \times GWP_{CH4} \quad (\text{Equation 2 of ACM0001, v19})$$

Where:

$OX_{toplayer}$ Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline (dimensionless),

$F_{CH4,PJ,y}$ Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH₄/yr).

$F_{CH,BL,y}$ Amount of methane in the LFG that would be flared in the baseline in year y (t CH₄/yr), the baseline value is 0.

GWP_{CH_4} Global warming potential of CH_4 (t CO_2e /t CH_4) value used 28 (as per ACM0001 which states that the “Default value of 28 from IPCC Fifth Assessment Report (AR5) shall be updated according to any future COP/MOP decisions”).

$F_{CH_4,PJ,y}$ is determined as the sum of the quantities of methane flared and used in power plant(s), boiler(s), air heater(s), glass melting furnace(s), kiln(s) and natural gas distribution, as follows:

$$F_{CH_4,PJ,y} = F_{CH_4,flared,y} + F_{CH_4,EL,y} + F_{CH_4,HG,y} + F_{CH_4,NG,y}$$

(Equation 3 of ACM0001, v19)

Where:

$F_{CH_4,PJ,y}$	Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH_4 /yr)
$F_{CH_4,flared,y}$	Amount of methane in the LFG which is destroyed by flaring in year y (t CH_4 /yr)
$F_{CH_4,EL,y}$	Amount of methane in the LFG which is used for electricity generation in year y (t CH_4 /yr)
$F_{CH_4,HG,y}$	Amount of methane in the LFG which is used for heat generation in year y (t CH_4 /yr) this value is 0 as no methane was used for heating.
$F_{CH_4,NG,y}$	Amount of methane in the LFG which is sent to the natural gas distribution network and/or dedicated pipeline and/or to the trucks in year y (t CH_4 /yr) this value is 0 as no methane was upgraded and supplied as natural gas.

$F_{CH_4,flared,y}$ in the workbooks take the flow to the flare per minute and adjusts it for the methane concentration and then multiplies it by the density for methane. This is then adjusted for the actual mass for that time interval to provide an actual unit and not a flow rate.

$$F_{CH_4,flared,y} = F_{CH_4,sent_{flare,y}} - \frac{PE_{flare,y}}{GWP_{CH_4}}$$

(Equation 4 of ACM0001, v19)

Where:

$F_{CH_4,flared,y}$	=	Amount of methane in the LFG which is destroyed by flaring in year y (t CH_4 /yr)
$F_{CH_4,sent_{flare,y}}$	=	Amount of methane in the LFG which is sent to the flare in year y (t CH_4 /yr)
$PE_{flare,y}$	=	Project emissions from flaring of the residual gas stream in year y (t CO_2e /yr)
GWP_{CH_4}	=	Global warming potential of CH_4 (t CO_2e /t CH_4)

$F_{CH4,EL,y}$ in the workbooks take the flow to the generators per minute and adjusts it for the methane concentration and then multiplies it by the density for methane. This is then adjusted for the actual mass for that time interval to provide an actual unit and not a flow rate.

$F_{CH4,EL,y}$ is determined using the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream version 3.0” and monitoring the working hours of the power plant(s), so that no emission

reduction is claimed for methane destruction during non-working hours. This is taken into account by monitoring the hours that the equipment utilizing the LFG is operating in year y (Opj,h,y) and is applied to determine the parameter of $F_{CH4,EL,y}=F_{i,t} \times Opj,h,y$.

Option F of the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” (Version 03.0.0)

The mass flow of greenhouse gas i ($F_{i,t}$) is determined using the equations below as stipulated in the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” (Version 03.0.):

$$F_{i,t} = V_{t,wb,n} \times v_{i,t,wb} \times \rho_{i,n} \quad \text{Mass Flow Tool Equation (9)}$$

$$\rho_{i,n} = \frac{P_n \times MM_i}{R_u \times T_n} \quad \text{Mass Flow Tool Equation (10)}$$

$$V_{t,wb,n} = M_{t,wb} / \rho_{t,wb,n} \quad \text{Mass Flow Tool Equation (15)}$$

$$\rho_{t,wb,n} = \frac{P_n \times MM_{t,wb}}{R_u \times T_n} \quad \text{Mass Flow Tool Equation (16)}$$

Where:

$F_{i,t}$ Mass flow of greenhouse gas i in the gaseous stream in time interval t (kg gas/h)

$V_{t,wb,n}$ Volumetric flow of the gaseous stream in the time interval t at normal conditions on a wet basis (m³ wet gas/h)

$v_{i,t,wb}$ Volumetric fraction of greenhouse gas i in the gaseous stream in a time interval t

on a wet basis (m^3 gas i/m^3 wet gas)

$\rho_{i,n}$ Density of greenhouse gas i in the gaseous stream normal conditions ($\text{kg gas}/\text{m}^3$ wet gas i)

P_n Absolute pressure of the gaseous stream in time interval t at normal conditions (Pa)

MM_i Molecular mass of greenhouse gas i (kg/kmol)

R_u Universal ideal gases constant ($\text{Pa}\cdot\text{m}^3/\text{kmol}\cdot\text{K}$)

T_n Temperature of the gaseous stream at normal conditions (K)

$M_{t,wb}$ Mass flow of the gaseous stream in time interval t on wet basis (kg/h)

$\rho_{t,wb,n}$ Density of greenhouse gas i in the gaseous stream in interval t on a wet basis at normal conditions ($\text{kg wet gas}/\text{m}^3$ wet gas)

$MM_{t,wb}$ Molecular mass of greenhouse gas i in time in time interval t on a wet basis ($\text{kg}/\text{kmol wet}$)

The molecular mass of the gaseous stream ($MM_{t,wb}$) is determined according to equation (17) below, as stipulated in the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” (Version 03.0.0):

$$MM_{t,wb} = \sum_k (V_{k,t,wb} \times MM_k) \quad \text{Mass Flow Tool Equation (17)}$$

Where:

$MM_{t,wb}$ Molecular mass of gaseous stream in time interval t on a wet basis ($\text{kg wet gas}/\text{kmol wet gas}$)

$V_{k,t,wb}$ Volumetric fraction of gas k in the gaseous stream in time interval t on a wet basis (m^3 gas k/ m^3 wet gas)

MM_k Molecular mass of gas k (kg/kmol)

k All gases contained in the gaseous stream (e.g. N_2 , CO_2 , O_2 , CO , H_2 , CH_4 , N_2O , NO , NO_2 , SO_2 , SF_6 and PFCs and H_2O in vapor phase).

The determination of the molecular mass of the gaseous stream ($MM_{t,wb}$) requires measuring the volumetric fraction of all gases (k) in the gaseous stream. However, as a simplification, the volumetric fraction of only the gases k that are greenhouse gases and are considered in the emission reduction calculation in the underlying methodology must be monitored and the difference to 100% may be considered as pure nitrogen. As per ACM0001 version 19.0 the only GHG to be considered is methane, therefore only the volumetric fraction of the methane will be monitored.

The above calculation is contained in the individual site monthly workbooks and then consolidated workbook titled “Consolidated ER Sheet 01 January-2023 to 30-November-2023 V2.1” under the Baseline Emissions sheet.

The baseline emissions associated with electricity generation in year y ($BE_{EC,y}$) are calculated using the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, Version 3”.

$BE_{EC,y} = \sum_k EC_{BL,k,y} \times EF_{EF,k,y} \times (1 + TDL_{k,y})$ (Equation 2 of Electricity Consumption and Generation Tool, v3). This case we are doing the calculation for Electricity generation:

Where:

$BE_{EC,y}$	Baseline emissions from electricity consumption in year y (t CO ₂ / yr)
$EC_{BL,k,y}$	Quantity of electricity that would be consumed by the baseline electricity consumer k in year y (MWh/yr). $EC_{BL,k,y}$ is equivalent to $EG_{PJ,y}$.
$EF_{EF,k,y}$	Emission factor for electricity generation for source k in year y (t CO ₂ /MWh) value 0.9647 t/MWh.
$TDL_{k,y}$	Average technical transmission and distribution losses for providing electricity to source j in year y is 11.78 in 2021 and 11.34 in 2022.
k	Sources of electricity consumption in the baseline

Project Emissions

The project emissions are calculated in accordance with equation (22) of the applied methodology:

$$PE_y = PE_{EC,y} + PE_{FC,y} + PE_{DY,y} \quad (\text{Equation 22 of ACM0001, v19})$$

Where:

PE_y = Project emissions in year y (tCO₂/y)

$PE_{EC,y}$ = Emissions from consumption of electricity due to the project activity in year y (tCO₂/y); value from below calculation 535

$PE_{FC,y}$ = Emissions from consumption of fossil fuels due to the project activity, for purpose other than electricity generation, year y (tCO₂/y); value from below calculation 2 is 27

$PE_{DY,y}$ = Emissions from distribution of compressed/liqefied LFG using trucks in year y (tCO₂/y); this is 0 as no distribution of the gas took place in this monitoring period.

$$PE_y = 252 \text{ tCO}_2\text{e}$$

Project emissions from electricity consumption:

PEEC,y is calculated according to the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, Version 3” using the following equation:

$$PE_{EC,y} = \sum_j EC_{PJ,j,y} \times EF_{EF,j,y} \times (1 + TDL_{j,y})$$

(Equation 1 of Electricity Consumption Tool and Generation, v3)

Where:

EF_{EF,j,y} = Emission Factor for electricity consumed value applied is 0.9647 tCO₂/MWh for all periods

EC_{PJ,j,y} = Total electricity consumed 107 MWh consumed in 2021 and 390 MWh consumed in 2022.

TDL_{j,y} = Transmission and Distribution losses; 11.78 in 2021 and 11.34 in 2022.

$$PE_{EC,y} = 174 \text{ tCO}_2\text{e}$$

All of the above calculations are contained in the consolidated workbook titled “Consolidated ER Sheet 1 January 2023 to 30 November 2023 V2.1” under the Project Emissions sheet.

Project emissions from fossil fuel consumption:

$$PE_{FC,j,y} = FC_{i,j,y} \times COEF_{i,y}$$

Where

PE_{FC,j,y} CO₂ emissions from fossil fuel combustion in process j during year

FC_{i,j,y} Quantity of fuel type i combusted in process j during year y [Mass or volume unit/yr] is 8.03t;

COEF_{i,y} CO₂ emission coefficient of fuel type i in year y [tCO₂/mass or volume unit] is 3.24/t;

$$PE_{FC,j,y} = 78 \text{ tCO}_2\text{e}$$

$$COEF_{i,y} = NCV_{i,y} \times EF_{CO2,i,y}$$

Where

COEF_{i,y} CO₂ emission coefficient of fuel type i in year y [tCO₂/mass or volume unit];

NCV_{i,y} Weighted average net calorific value of the fuel type i year y [GJ/mass or volume unit] is 0.0433 TJ/t;

EF_{j,y} Weighted average CO₂ emission factor of fuel type i in year y [tCO₂/TJ]
74.8tCO₂/TJ;

i Fuel types combusted in process j during year y is standard diesel.

The verification team has determined whether the registered monitoring plan in the VCS PD and CDM PDD /B04/ has been properly implemented and followed by the PP and whether all parameters fixed ex-ante for emission reduction calculation are as per the registered PDD /B04/. The verification team's assessment of each data and parameter fixed ex-ante is provided below:

Parameter	Description	Value	Unit	Source	Assessment
GWP _{CH4}	Global Warming Potential of methane	28	tCO ₂ e/ tCH ₄	IPCC (Fifth Assessment Report)	The parameter is used for the global warming potential of methane and used for calculation of emission reductions. The parameter value is based on the GWP available in the IPCC fifth Assessment report/B05-2/. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
EF _{EL} or EF _{grid, CM, y}	Combined margin emission factor for the grid in year y	0.9647	tCO ₂ e/ MWh	Calculated using TOOL07 "Tool to calculate the emission factor for an electricity system" version 07.0	The parameter is used for the ex-ante calculation of the emission factor for the project activity. The emission factor is fixed ex-ante. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
Φ _{default}	Default value for the model correction factor to account for model	0.75	-	Methodological tool: Emissions from solid waste disposal sites, Version 08.0	The parameter is used for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
OX	Oxidation factor (reflecting the amount of methane from SWDS that is	0.1	-	Methodological tool: Emissions from solid waste disposal sites, Version	The parameter is used for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS

	oxidized in the soil or other material covering the waste)			08.0	PD/B04/ and fixed ex-ante for the project activity.										
F	Fraction of methane in the SWDS gas (volume fraction)	0.5	-	Methodological tool: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the project emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.										
DOC _r	Fraction of degradable organic carbon (DOC) that can decompose	0.5	-	IPCC 2006 Guidelines for National Greenhouse Gas Inventories	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.										
MCF	Methane Correction Factor	1.0	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.										
DOC _j	Fraction of degradable organic carbon (by weight) in the waste type j.	Table provided in the MR/02/ and PDD/B04/	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity. <table><tr><td>Wood and wood products</td><td>43</td></tr><tr><td>Pulp, paper and cardboard (other than sludge)</td><td>40</td></tr><tr><td>Food, food waste, beverages and tobacco (other than sludge)</td><td>15</td></tr><tr><td>Textiles</td><td>24</td></tr><tr><td>Garden, yard and park waste</td><td>20</td></tr></table>	Wood and wood products	43	Pulp, paper and cardboard (other than sludge)	40	Food, food waste, beverages and tobacco (other than sludge)	15	Textiles	24	Garden, yard and park waste	20
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Pulp, paper and cardboard (other than sludge)	40														
Food, food waste, beverages and tobacco (other than sludge)	15														
Textiles	24														
Garden, yard and park waste	20														

					Glass, plastic, metal, other inert waste	0																																	
k_j	Decay rate for the waste type j	Table provided in the MR/02/ and PDD/B04/	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity. <table><tr><th rowspan="2">Waste type j</th><th rowspan="2"></th><th colspan="2">Boreal and Temperate (MAT≤20°C)</th><th colspan="2">Tropical (MAT>20°C)</th></tr><tr><th>Dry (MAP/PET <1)</th><th>Wet (MAP/PET >1)</th><th>Dry (MAP < 1000mm)</th><th>Wet (MAP > 1000mm)</th></tr><tr><td rowspan="2">Slowly degrading</td><td>Pulp, paper, cardboard (other than sludge), textiles</td><td>0.04</td><td>0.06</td><td>0.045</td><td>0.07</td></tr><tr><td>Wood, wood products and straw</td><td>0.02</td><td>0.03</td><td>0.025</td><td>0.035</td></tr><tr><td>Moderately degrading</td><td>Other (non-food) organic putrescible garden and park waste</td><td>0.05</td><td>0.10</td><td>0.065</td><td>0.17</td></tr><tr><td>Rapidly degrading</td><td>Food, food waste, sewage sludge, beverages and tobacco</td><td>0.06</td><td>0.185</td><td>0.085</td><td>0.40</td></tr></table>		Waste type j		Boreal and Temperate (MAT≤20°C)		Tropical (MAT>20°C)		Dry (MAP/PET <1)	Wet (MAP/PET >1)	Dry (MAP < 1000mm)	Wet (MAP > 1000mm)	Slowly degrading	Pulp, paper, cardboard (other than sludge), textiles	0.04	0.06	0.045	0.07	Wood, wood products and straw	0.02	0.03	0.025	0.035	Moderately degrading	Other (non-food) organic putrescible garden and park waste	0.05	0.10	0.065	0.17	Rapidly degrading	Food, food waste, sewage sludge, beverages and tobacco	0.06	0.185	0.085	0.40
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f_y	Fraction of methane captured at the SWDS and flared, combusted or used in another manner	0	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.																																		
W_x	Total amount of organic waste in year x (tons)	Please refer to calculation spreadsheet ¹	Tonnes	Landfill Operator	The parameter is used as an input for calculation of the baseline emissions. The parameter is used to estimate ex-ante emission reductions based on the waste profile. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.																																		
$NCV_{i,y}$	Weighted average net calorific	0.0433	TJ/t	IPCC default values as provided in	The parameter is used as an input for calculation of the project emissions. The																																		

¹ Ex-ante ER calculation spreadsheet.

	value of fuel type i in the year y			Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories.	parameter is used in case of fossil fuel consumption (diesel in this case). The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
$EFCO_{2,i,y}$	Weighted average CO ₂ emission factor of fuel type i in the year y	74.8 tCO ₂ /TJ	tCO ₂ /GJ	IPCC default values as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories.	The parameter is used as an input for calculation of the project emissions. The parameter is used in case of fossil fuel consumption (diesel). The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
η_{PJ}	Efficiency of the LFG capture system that will be installed in the project activity	0.5	-	ACM0001 version 19	The parameter is used as an input for calculation of the baseline emissions. Since the technical specifications are not available for the LFG capture system, a default value of 50% is applied for the purposes of ex-ante emissions estimation. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
$SPEC_{flare}$	Manufacturer's flare specifications for temperature, flow rate and maintenance schedule.	Temperature (°C) Min - 700°C Max - 1,200°C Flow rate or heat flux (kg/h or m ³ /h)	Temperature (°C) Flow rate or heat flux (kg/h or m ³ /h) Maintenance schedule	Manufacturer's flare specifications for temperature, flow rate and maintenance schedule.	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the manufacturer specifications on the flare. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity. Maintenance schedule is not required as Option A has been selected from the tool Project emissions from flaring, v4.

		Min – 400 m³/h Max – 2,000 m³/h Maintenance schedule (N° of days) The maintenance schedule is not required if Option A (default flare efficiency option specified in the tool titled ‘Project emissions from flaring, v4’) is selected to determine flare efficiency of an enclosed flare	(N° of days)		
R _u	Universal ideal gases constant	8.314	Pa.m ³ /kmol.k	“Tool to determine the mass flow of a greenhouse gas in a gaseous stream”, Version 03.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.

MM_i	Molecular mass of greenhouse gas i	Methane: 16.04 Nitrogen: 28.01	Kg/kmol	“Tool to determine the mass flow of a greenhouse gas in a gaseous stream”, Version 03.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
P_n	Total pressure at normal conditions	101,325 Pa	Pa	“Tool to determine the mass flow of a greenhouse gas in a gaseous stream”, Version 03.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
T_n	Temperature at normal conditions	273.15 K	K	“Tool to determine the mass flow of a greenhouse gas in a gaseous stream”, Version 03.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
$\eta_{\text{flare},m}$	Flare efficiency for the minute m	0.8	-	Methodological Tool “Project emissions from flaring” Version 04.0.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.

The values are consistent with the registered VCS PD/B04/ and defined fixed ex-ante during crediting period of the project activity. The fixed ex-ante data and parameter have been listed in the monitoring report/02/ and confirmed by the verification team as correct and consistent with that stated in the registered VCS PD/B04/. The verification team confirms that the MR/02/ and the ER calculation spreadsheet/04/ have considered the parameters fixed ex-ante correctly.

4.4 Quality of Evidence to Determine Reductions and Removals

CCIPL was able to confirm that the calculations are based on authentic data. The spreadsheets/04/ used to calculate the VCUs calculations and all figures were tracked, cross checked with actual reported data from the CEB invoices and found to be consistent.

The quality of supporting evidence submitted to the VVB for verification is adequate and found to be verifiable. The transfer of carbon rights and other supporting documents related to quality and maintenance were checked by the verification team during the remote audit to confirm the authenticity of the documents and to check the correctness of the calculation.

When verifying the reported emission reductions, CCIPL ensured that there was a clear audit trail that contained the evidence and records that validate the stated figures. All source documents that form the basis for assumptions and other information underlying the GHG data were checked by the verification team.

When assessing the audit trails, CCIPL also examined:

1. Whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period
2. The source and nature of the evidence
3. If comparable information was available from sources other than that used in the monitoring report, CCIPL cross-checked the monitoring report against the other sources to confirm that the stated figures were correct.

CCIPL also assessed that the data collection system met the requirements of the monitoring plan as per the applied methodology.

Proper data management inclusive of data acquisition and aggregation, data management system is being followed for the project activity.

The monitoring personnel at site are well trained and follow reproducible routines. Thus, they are competent to carry out the relevant tasks with sufficient accuracy.

Monitored Parameters

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Management of SWDS (Management of SWDS)
Data Unit	-
Reported Values	Annual
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Annual
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	The waste management license is granted by a governmental department (3rd party). The waste

	management licenses are valid for the sites in operation/24/.
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	Verification team has compared and checked the waste management licenses/24/ for the landfill sites.
How were the values in the monitoring report verified?	Verification team has verified the waste management licenses/24/ for the landfill sites. The waste management licenses are valid for the sites in operation/24/ during the monitoring period.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Operation of the equipment that consumes the LFG (Op _{j,h})
Data Unit	-
Reported Values	N/A
Measuring frequency/Time Interval:	Hourly
Reporting frequency:	Hourly
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Flare program logic controller
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	Verification team has checked the values provided in the monthly raw data as provided in the workbooks for each month/11/. The validity of the thermocouple and UV sensors is verified by reviewing the calibration certificate of thermocouple/20/ and maintenance records of UV sensors/12/ provided.
How were the values in the monitoring report verified?	Verification team has checked the values provided in the monthly raw data as provided in the workbooks for each

	month/11/. The validity of the thermocouple and UV sensors is verified by reviewing the calibration certificate of thermocouple/20/ and maintenance records of UV sensors/12/ provided.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB			
Data / Parameter: (as in monitoring plan of PDD):	Amount of electricity generated using LFG by the project activity in year y (EG _{PJ,y})			
Data Unit	MWh			
Measuring frequency/Time Interval:	Continuously			
Reporting frequency:	Aggregated monthly and yearly			
Values:	Robinson Deep	7,522 MWh		
	Marie Louise	5,180 MWh		
	Goudkoppies	4,127MWh		
	Total	16,829 MWh		
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan/B04/ and the monitoring methodology, ACM0001, version 19/B02/			
Details of monitoring equipment:	Elster A1700 Electricity meter/08/			
		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number	351421105891	351421100020	351441128474
	Accuracy	0.20	0.50	0.50
	Calibration Frequency	10 years in accordance with manufacturer specifications and communication /08-6//15/	10 years in accordance with manufacturer specifications and communication /08-6//15/	10 years in accordance with manufacturer specifications and communication /08-6//15/

	Last calibration	01/03/2016 /19/	25/01/2016 /19/	12/06/2018 (original) 23/08/2022 (Revised)/ 19/
	Calibration	28/02/2026	24/01/2026	11/06/2028/ (original) 22/08/2032 (Revised)
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The registered PDD provides an accuracy class of 0.5 and the installed meters are of accuracy class 0.5 (for Marie Louise and Goudkoppies) or better than that 0.5 (for Robinson Deep).			
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	10 years. Calibration frequency is not provided in the registered PD/B04/, the calibration frequency is in accordance with the OEM specification, which guarantees the units for a period of 10 years which is in line with SANAS guidelines.			
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	The calibration interval is not provided in the PD/B04/, however the frequency provided is in accordance with the SANAS guidelines/B05-3/.			
Company performing the calibration (internal or external calibration):	External Calibration by Honeywell/19/			
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes, the calibration confirmed the proper functioning of the monitoring equipment/19/.			
Is (are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid for the whole reporting period/19/.			
If applicable, has the reported data been cross-checked with other available data?	The reported data in the ER sheet/04/ has been cross-checked with generation data and the invoices/10/.			
How were the values in the monitoring report verified?	The values were verified with the ER sheet/04/ and cross-checked with generation data and the invoices/10/.			
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/ /B04/.			
In case only partial data are available because activity levels or non-activity parameters have not been monitored	NA.			

in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Full set of data has been provided for the monitoring period.
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Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Average technical transmission and distribution losses for providing electricity (TDL _y)
Data Unit	%
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Annual
Values:	2021 - 11.78% 2022 - 11.43%
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan/B04/ and the monitoring methodology, ACM0001, version 19/B02/
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA

If applicable, has the reported data been cross-checked with other available data?	The reported data in the ER sheet/04/ has been cross-checked with Eskom Annual Reports/16/.
How were the values in the monitoring report verified?	The reported data in the ER sheet/04/ has been cross-checked with Eskom Annual Reports/16/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/ /B04/. As per data/ parameter table 3 of CDM Tool 05 version 03.0, PP can choose one among the 3 options provided. PP has chosen option 1 "Use annual average value based on the most recent data available within the host country;" and monitoring frequency for the parameter is given as "Annually. In the absence of data from the relevant year, most recent figures should be used, but not older than 5 years." Also, In the registered PD, the source of data for the parameter TDL_y is provided as Eskom annual report and as measurement method, it is also mentioned that the parameter is "monitored annually. In the absence of data from the relevant year, most recent figures should be used, not older than 5 years." Since the default values are not used, use of same TDL_y value for baseline and project emissions is applicable. Therefore, the provided source and the year of data selection is deemed to be acceptable to VVB.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Temperature in the exhaust gas of the enclosed flare in minute m (TEG _m)
Data Unit	°C
Reported Values	Average for Robinson Deep T_{flare}= 941.77 °C Average for Goudkoppies T_{flare} = 762.71 °C Average for Marie Louise T_{flare}= 968.59 °C
Measuring frequency/Time Interval:	Continuously
Reporting frequency:	Continuously
Is measuring and reporting frequency in accordance with the monitoring	Yes

plan and monitoring methodology? (Yes / No)				
Details of monitoring equipment:	Make-WIKA N-Type Thermocouple/08-4/			
		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number	NA	NA	NA
	Equipment Tag NO/ Part Number.	T1TECNSX60	T1TECNSX60	T1TECNSX60
	Accuracy	+0.75% (333°C-1200°C) /08-4/	+0.75% (333°C-1200°C) /08-4/	+0.75% (333°C-1200°C) /08-4/
	Range	333°C to +1300°C /08-4/	333°C to +1300°C /08-4/	333°C to +1300°C /08-4/
		It was confirmed through onsite visit that it is used to determine operational checks and determine the values for the Flare temperature parameter. A second thermocouple (Top thermocouple) higher up in the flare exhaust stack is used as a check on the combustion temperature.		
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The accuracy of the monitoring equipment is +0.75% for both sites and the full scale as per manufacturer specifications/08-4/. This represents a good monitoring practise.			
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Calibration frequency (Functionality checks) is on an annual basis. Calibration frequency meets the requirements of manufacturer specifications/08-4/ and the registered PDD/B04/.			
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Yes, the calibration interval is in line with the monitoring plan of the PD/B04/.			
Company performing the calibration (internal or external calibration):	Internal functionality checks are done using a portable temperature probe and monitor.			
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. The dates of functionality checks are provided below: Marie Louise 13/09/2022 08/12/2022			

	15/03/2023 07/06/2023 28/09/2023 Goudkoppies 19/11/2022 21/02/2023 08/05/2023 30/08/2023 Robinson Deep 17/11/2022 20/02/2023 25/05/2023 30/08/2023
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	The reported data has been compared with functionality check sheets /20/ and also confirmed during the on-site visit
How were the values in the monitoring report verified?	The values in the monitoring report/02/ were verified and compared with the continuous and monthly data provided in the ER sheet /04/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in PD /B04/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
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Data / Parameter: (as in monitoring plan of PDD):	Quantity of electricity consumed by the project electricity consumption source in year y (EC_{PJ,I,y})																							
Data Unit	MWh/y																							
Measuring frequency/Time Interval:	Continuous																							
Reporting frequency	Annually																							
reported Values	Robinson Deep = 133 MWh Goudkoppies = 0 MWh Marie Louise = 29 MWh Total = 162 MWh																							
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Electricity meter																							
Details of monitoring equipment:	<table border="1"> <tr> <td></td><td>Site 1 (Robinson Deep)</td><td>Site 2 (Marie Louise)</td><td>Site 3 (Goudkoppies)</td></tr> <tr> <td>Serial Number/ Part No</td><td>CBI-EC330CM</td><td>DEM024SJ</td><td>351441128474</td></tr> <tr> <td>Accuracy</td><td>class 1</td><td>class B</td><td>0.50</td></tr> <tr> <td>Calibration Frequency</td><td>NA</td><td>NA</td><td>10 years</td></tr> <tr> <td>Calibration valid from</td><td>NA</td><td>NA</td><td>12/06/2018 to 11/06/2028 (351441128474)</td></tr> </table>					Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)	Serial Number/ Part No	CBI-EC330CM	DEM024SJ	351441128474	Accuracy	class 1	class B	0.50	Calibration Frequency	NA	NA	10 years	Calibration valid from	NA	NA	12/06/2018 to 11/06/2028 (351441128474)
	Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)																					
Serial Number/ Part No	CBI-EC330CM	DEM024SJ	351441128474																					
Accuracy	class 1	class B	0.50																					
Calibration Frequency	NA	NA	10 years																					
Calibration valid from	NA	NA	12/06/2018 to 11/06/2028 (351441128474)																					
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The accuracy of the gas analyser is class 1, class B and 0.50 for all the sites/02/. This represents a good monitoring practise.																							
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA																							
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Yes																							

Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the electricity invoices /10/.
How were the values in the monitoring report verified?	The reported data has been cross checked with the electricity invoices /10/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in the registered PD /B04/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Quantity of fuel type i combusted in process j during the year y ($FC_{i,j,y}$)
Data Unit	Mass or volume unit per year (e.g. ton/yr or m3/yr)
Measuring frequency/Time Interval:	Continuously
Reporting frequency	Continuously
reported Values	Robinson Deep 8,849 Lt Marie Louise 150.00 Lt Goudkoppies 19,469.84 Lt Total 28,468.97 Lt Density used 0.84 kg/Lt/B05-4/
Is measuring and reporting frequency in accordance with the monitoring	Yes, the measuring and reporting frequency is in accordance with the monitoring plan/B04/ and monitoring methodology/B02/.

plan and monitoring methodology? (Yes / No)	
Details of monitoring equipment:	The monitoring is being done by ruler gauges in the Volvo 105I (Diesel Tank level indicator)/13/ at Robinson Deep and Goudkoppies site and using Cummins 175I (Diesel Tank level indicator) at Marie Louise site. Robinson Deep: Type: Volvo 105I (Diesel Tank level indicator) Sl. No.: FE3095S Marie Louise: Type: Cummins 175I (Diesel Tank level indicator) Sl. No.: AK16080689-A Goudkoppies: Type: Volvo 105I (Diesel Tank level indicator) Sl. No.: FE0686S
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The accuracy for the ruler gauge is +-3.0 litre/13/. The accuracy of the instruments is in accordance with the registered PDD/B04/.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Annual. Calibration undertaken on 27/05/2022 Calibration undertaken on 23/05/2023
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Calibration interval is annual as per the PD/B04/. The calibration interval is determined in accordance with the manufacturer specifications/13/.
Company performing the calibration (internal or external calibration):	Calibrate@pjb (External)
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross-checked with the fuel purchase receipts/13-2/.

How were the values in the monitoring report verified?	The values in the monitoring report were verified through the review of the volume records for the fuel consumption/13-1/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB			
Data / Parameter: (as in monitoring plan of PDD):	Volumetric fraction of greenhouse gas i in a time interval t on a wet basis ($V_{i,t,wb}$)			
Data Unit	m³ gas i/m³ wet gas			
Measuring frequency/Time Interval:	Measurements are logged once every minute			
Reporting frequency:/	Measurements are logged once every minute			
Values for CH4	Average for Robinson Deep 52% Average for Marie Louise 53.7% Average for Goudkoppies 55.9% Average 53.85 %			
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes			
Details of monitoring equipment:	Make- Edinburgh Instruments-Guardian NG Infrared Gas Monitor/08-1/ and Siemens Ultramat 23/08-1/			
		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number	22968	17269	22971
	Accuracy	< 2% of full scale	< 2% of full scale	< 2% of full scale
	Calibration Frequency	Yearly/06/	Yearly/06/	yearly/06/
	Last calibration	22/03/2023/06/	04/10/2022	05/01/2023

	Calibration valid till	21/03/2023/06/	03/10/2023	04/01/2024/06/
	Replaced on	22/03/2023 09/05/2024	NA	NA
	Serial Number	22970	--	--
	Accuracy	< 2 % of full	--	--
	Calibration Frequency	Yearly	--	--
	Last calibration (All calibration dates provided in the row below)	09/05/2023	--	--
	Calibration valid till	08/05/2024	--	--
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The accuracy of the gas analyser has been provided for each site and each analyser/14//08/. This represents a good monitoring practise.			
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Yearly. Calibration frequency is 12 months as per manufacturer specifications for Edinburgh Instruments-Guardian NG Infrared Gas Monitor and 12 months for Siemens Ultramat /14//06/.			
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Yes.			
Company performing the calibration (internal or external calibration):	Internal with a span gas cylinder in accordance with the work instructions/07/08-1/14/ The Span gas used for these calibrations has been calibrated according to ISO/IEC 17025:2005 standards. For Robison Deep site: (S. No. 199836); (S. No. 199906); (S. No. 54489);			

	For Marie Louise site: (S. No. 199774); (S. No. 54447); (S. No. 199914); For Goudkoppies site: (S. No. 199785); (S. No. 54513); For Robison Deep site: Span Gas Traceability Cert/Can.199836 Valid from 31/08/2021 to 31/08/2022 Span Gas Traceability Cert/Can.199906 Valid from 30/06/2022 to 30/06/2023 Span Gas Traceability Cert/Can.54489 Valid from 01/04/2023 to 30/04/2024 For Marie Louise site: Span Gas Traceability Cert.199774 Valid from 30/06/2022 to 30/06/2023 Span Gas Traceability Cert.54447 Valid from 01/04/2023 to 30/04/2024 For Goudkoppies site: Span Gas Traceability Cert.199785 Valid from 30/06/2022 to 30/06/2023 Span Gas Traceability Cert.54513 Valid from 01/04/2023 to 30/04/2024
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration report for working Gas Analyser is available /10/ /18/.
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the raw data /06/ at the site during OSV.
How were the values in the monitoring report verified?	The reported data has been cross checked with the raw data /06/ at the site during OSV.
Does the data management (from data generation to emission reduction	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/ /B04/.

calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB			
Data / Parameter: (as in monitoring plan of PDD):	Mass flow of the gaseous stream in time interval t on a wet basis (M _{t,wb})			
Data Unit	Kg/h			
Reported Values	Robinson Deep Average 763.0 Kg/h Marie Louise Average 450.2 Kg/h Goudkoppies Average 430.0 Kg/h			
Measuring frequency/Time Interval:	Continuously			
Reporting frequency:	Recorded every minute			
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes			
Details of monitoring equipment:	Make-Thermal mass flow meter (Endress+ Hauser/Proline t-mass 65I) /08/			
	Total Flow meter			
		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number	A309FB02000 (Valid from 10/12/2020 to 09/12/2023)	L5003702000 (05/02/2021 to 04/02/2024)	99047602000 (Valid from 06/10/2021 to 05/10/2024)
	Accuracy	<3%	<3%	<3%

	Calibration Frequency	3 years	3 years	3 years
	Calibration date ²	20/08/2020	19/08/2020	29/07/2022 (for 9904760200)
	Flare flow meter			
		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number	E2110D02000 (Valid from 13/10/2020 to 12/10/2023) A309F902000 (Valid from 09/10/2023 to 08/10/2026)	99047502000 (Valid from 08/12/2022 to 07/12/2023) N8103702000 (Valid from 27/01/2023 to 26/01/2026)	E704AF02000 (Valid from 12/04/2021 to 11/04/2024)
	Accuracy	<3%	<3%	<3%
	Calibration Frequency	3 years /08-2/	3 years /08-2/	3 years /08-2/
	Calibration date	18/06/2020 (for E2110D02000) 03/03/2023 (for A309F902000)	18/08/2022 (for 99047502000) 05/12/2022 (for N8103702000)	17/06/2020

² The calibration of the flow meters is valid from the date of installation in accordance with the letter from the manufacturer/18/.

	Electricity Flow meter			
		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppi es)
	Serial Number	A309FA02000 (Valid from 13/10/2020 to 12/10/2023) N8103802000 (Valid from 09/10/2023 to 08/10/2026)	99047702000 (Valid from 30/06/2022 to 29/06/2025)	C6031202000 (Valid from 12/04/2021 to 11/04/2024)
	Accuracy	<3%	<3%	<3%
	Calibration Frequency	3 years /08-2/	3 years /08-2/	3 years /08-2/
	Calibration date	19/08/2020 (for A309FA02000) 15/12/2022 (for N8103802000)	08/06/2022 (for 99047702000)	30/10/2020
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	Yes, the accuracy of the monitoring equipment is as stated in the PDD/B04/.			
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	3 years. Calibration frequency meets the requirements of manufacturer specifications /08-2/, /18/.			
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected	Yes.			

frequency represent good monitoring practise?	
Company performing the calibration (internal or external calibration):	Endress + Hauser (External) Endress + Hauser is the manufacturer and the laboratory is accredited to undertake calibration.
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration report for the flow meters are available /18/ /05/.
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	Verification team has compared and checked the values provided in ER sheet /04/ with the monthly raw data as provided in the workbooks for each month provided in the ER sheet/04/.
How were the values in the monitoring report verified?	The values for the parameter are monitored continuously and then through the telemetry every 30 minutes data is sent to network server central database.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Flame detection of flare in the minute m (Flame _m)
Data Unit	Flame on or Flame off
Measuring frequency/Time Interval:	Continuous
Reporting frequency:/	recorded once every minute
Values	Detection of flame recorded as a minute that the flame was on, otherwise recorded as a minute that the flame was off

Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and recording frequency is in accordance with the registered PD/B04/
Details of monitoring equipment:	Krom Schroder UV Sensor/08/ Robinson Deep Tested Dates 11/05/2022 25/05/2023 Marie Louise Tested Dates 30/06/2022 07/06/2023 Goudkoppies Tested Dates 15/05/2022 8/05/2023
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	Yes, the sensors were tested in accordance with the manufacturer's specifications.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	The sensors are replaced and tested along with the thermocouples.
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Yes.
Company performing the calibration (internal or external calibration):	
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
Is (are) calibration(s) valid for the whole reporting period?	Yes

If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the raw data /06/ at the site during OSV.
How were the values in the monitoring report verified?	The reported data has been cross checked with the raw data /06/ at the site during OSV.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/ /B04/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

The verification team can confirm that sufficient evidence is available for the whole monitoring period, a methodology deviation has also been applied for the period the electricity consumption was not monitored for Robinson Deep landfill site and the same is verifiable and that the data collection system meets the requirements of the monitoring plan and the applied methodology according to the assessment carried out during the remote audit and in the document review.

Verification team confirms that the quality of evidence to determine the GHG reductions and removals produced was found satisfactory. The detailed information flow with the roles and responsibilities of the individuals and the monitoring system have been provided in the VCS-MR/02/.

4.5 Non-Permanence Risk Analysis

Not applicable.

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5 VERIFICATION OPINION

5.1 Verification Summary

Carbon Check (India) Private Limited has performed the verification of the project activity “Joburg Landfill Gas to Energy Project” in South Africa, with regards to the relevant requirements for VCS project activities.

The conclusions can be summarised as follows:

- The project is implemented and installed as planned and described in the registered VCS PD/B04/ and the project activity confirms with the verification criteria for project and their GHG emission reductions or removals set out in the VCS rules.
- The monitoring plan is in accordance with the applied approved methodology, i.e. ACM0001, version 19/B02/ and monitoring plan as sought out in the registered VCS-PD/B04/.
- The monitoring system is in place and functional. The project has generated verifiable GHG emission reductions.

As the result of the verification of project activities, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. Carbon Check (India) Private Ltd. herewith confirms that the project has achieved emission reductions in the below mentioned reporting period as follows. The project complies with the verification criteria for projects and their GHG emissions reductions or removals set out in VCS rules. The GHG statement provided herein is the responsibility of the project proponent and project conforms with the verification criteria for projects and their GHG emission reductions or removals set out in VCS Standard Version 4.5/B01-1/. The project has been implemented in accordance with the project description and subsequently validated variations (project instance inclusions and project description deviations). In the course of the verification process 13 CARs, 09 CLs and 00 FARs were raised, all the CARs and CLs are closed. No FARs were raised during the course of verification.

For the project description deviation included in the project activity, the project conforms with the validation criteria for projects set out in VCS Version 4.5/B01-1/.

5.2 Verification Conclusion

The level of assurance of the verification report falls under reasonable assurance engagements as selected by the Client. The verification team verified the monitoring data for all the parameters of the monitoring plan based on the sampling measures used by the project proponent and confirms that the reported emission reductions are free from any type of material errors.

Verification period: From 01-January-2023 to 30-November-2023

Verified GHG emission reductions and carbon dioxide removals in the above verification period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-January-2023 to 30 November 2023	149,788	252	0	0	0	149,536
Total	149,788	252	0	0	0	149,536

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-January-2023 to 30-November2023	551,135	149,536	27.13%%	The value is lower than the ex-ante estimates compared to the low collection efficiency as the ex-ante estimates are based on the first order decay model and there are chances of differences. However, the values are not higher than the ex-ante estimates.
Total	551,135	149,536	27.13%%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

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Not applicable

APPENDIX 2: REFERENCES

S. No.	Document
/01/	Monitoring report version 1, dated 14/12/2023
/02/	Monitoring Report (final) version 1.5 dated 06/06/2024
/03/	ER spread sheet v1 corresponding to /01/
/04/	ER spread sheet v2.1 corresponding to /02/ Consolidated ER Sheet 1 January 2023 to 30 November 2023 V2.1
/05/	Flow meter Calibration data for the year 2022 & 2023 done by Energy Systems. Details are provided in section 4.5 of this report. 1. Robinson Deep Landfill 2. Marie Louise Landfill 3. Goudkoppies landfill
/06/	Gas analyser calibration data for the year 2022 & 2023 done by Energy Systems. Details are provided in section 4.5 of this report. 1. Robinson Deep Landfill 2. Marie Louise Landfill 3. Goudkoppies landfill
/07/	Span Gas calibration of gas cylinder issued by CGE SA: 1. Robinson Deep Landfill 2. Marie Louise Landfill 3. Goudkoppies landfill
/08/	Equipment Manuals for: 1. Gas Analyser 2. E&H Proline t-mass 65 Manual 3. Flare Operations Manual 4. Thermocouple Manual 5. Hour Meter Manual 6. Electricity Meters Manual 7. UV Sensor Manual
/09/	Training Certificates and records for Erick Ramalebane, Elick Mkhari (Engine Awareness Course, Gas Field Course, Analyser operation, Flare Operation)
/10/	Electricity Generation Data with the sales records for the monitoring period 01/01/2023 to 30/11/2023 1. Robinson Deep Landfill 2. Marie Louise Landfill 3. Goudkoppies landfill
/11/	Flare Trip Logs for the monitoring period 01/01/2023 to 30/11/2023 1. Robinson Deep Landfill 2. Marie Louise Landfill 3. Goudkoppies landfill
/12/	Flare Maintenance Data for the monitoring period 01/01/2023 to 30/11/2023 1. Robinson Deep Landfill 2. Marie Louise Landfill 3. Goudkoppies landfill

/13/	Standby Generator Records for the monitoring period 01/01/2023 to 30/11/2023 1. Diesel Volume Records and diesel tank specifications 2. Fuel purchase receipts
/14/	Span Gas Validity Letter: Speciality Gases (Pty) Ltd dated 06/02/2019
/15/	Electricity Meter: Clarification Email from Honeywell Elster for the calibration requirements dated 24/01/2019
/16/	Transmission and Distribution Losses: Eskom Annual Reports 2021 and 2022
/17/	Commissioning Certificates for the electricity generators at the landfill sites: 1. Goudkoppies landfill dated 25/04/2017 by Eskom 2. Marie Louise landfill dated 25/01/2018 by Eskom 3. Robinson Deep landfill dated 28/11/2016 by Eskom
/18/	Letter from Endress + Hauser for validity of calibration of Flow meters dated 21/11/2008
/19/	Electricity Meters Calibration for the sites (Refer §4.5 of the VR for details):: 1. Robinson Deep issued by Sanas Calibration Laboratory Elster Solutions (Pty)Ltd 2. Marie Louise issued by Sanas Calibration Laboratory Elster Solutions (Pty)Ltd & LCS Engineering (Pty)Ltd 3. Goudkoppies issued by Honeywell & LCS Engineering (Pty)Ltd
/20/	Thermocouple Functionality Checks (Details are provided in section 4.5 of this report):: 1. Robinson Deep 2. Marie Louise 3. Goudkoppies
/21/	Equipment Installation and Replacement Records (Details are provided in section 4.5 of this report): 1. Flow meter 2. Thermocouple 3. Electricity meter (Goudkoppies)
/22/	Clarification letter on the actual capacity of 3 MW for Robinson Deep landfill site issued by the Utility company for South Africa (Eskom) dated 28/11/2016
/23/	Hour Meter Data
/24/	Waste Management Licences for the landfill sites: 1. Ennerdale Permit Number Gaut 002/09-10/W0030 2. Goudkoppies Permit Number 16/2/7/C221/D11/Z1 3. Linbro Park Permit Number 16/2/7/A210/D173/Z1/P1 4. Marie Louise permit number 16/2/7/C221/D11/Z3/P65 5. Robinson Deep permit number 16/2/7/C221/D11/Z2
/25/	1. Declaration from City of Joburg and PickItUp confirming ENERGY Joburg RF (PTY) Limited's sole rights on the carbon credits generated 2. Email sent to Eskom notifying sole right on the VCUs generated
/26/	Declaration by PP on no claim from any other Carbon Program
/27/	Community Engagement Activities:

	1. Attendance Sheet 2. Minutes of meeting 3. Agenda for Minutes of Meeting
/28/	1. Service Maintenance Sheets 2. Oil Collection receipts
/29/	EIA report
/30/	Noise emission test result
/31/	Name change certificate
/32/	Employment equity evidence
/33/	Implementation agreement
/34/	Public consultation evidences
/B01/	1. VCS Standard, version 04.5 2. VCS Program Guide version 04.4 3. VCS Validation and Verification Manual, version 03.2 4. Registration and Issuance Process v4.4 5. VCS Program Definitions version 04.4
/B02/	Large Scale CDM Methodology ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas Version 19.0
/B03/	1. VCS MR Template version 4.3
/B04/	1. Registered CDM PDD (version 12 dated 26/09/2020 and the corresponding Validation Report 2. VCS PD (version 09 dated 03/03/2023) and the corresponding Validation Report 3. Previous MR (MP1): Version 1.3 dated 05/06/2023 4. Previous Verification report (MP1): Version 4 dated 27/07/2023
/B05/	Websites: 1. http://cdm.unfccc.int/ 2. www.ipcc.ch 3. https://www.sanas.co.za 4. https://www.ipu.co.uk/en590/

APPENDIX 3: ABBREVIATIONS

BAU	Business As Usual
CA	Corrective Action / Clarification Action
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CEB	Central Electricity Board
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GHG	Greenhouse gas(es)
GK	Goudkoppies Landfill Site
GWh	Giga Watt Hour
IPCC	Intergovernmental Panel on Climate Change
LFG	Landfill Gas
ML	Marie Louise Landfill site
MW	Megawatts
MWh	Mega Watt Hour
OSV	On Site Visit
QC/QA	Quality control/ Quality assurance
RD	Robinson Deep Landfill site
SDG	Sustainable Development Goals
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
UNPA	United Nations Framework Convention on Climate Change CDM Project Activity
VER	Verified Emission Reduction

VCS	Verified Carbon Standard
VCU	Verified Carbon Units
VVB	Validation / Verification Body

APPENDIX 4: COMPETENCY CERTIFICATE



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Anubhav Dimri

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

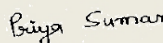
☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☒ Plastic Waste Expert
☒ CCB Expert	☐ Legal Expert	☒ Financial Expert	☒ Environmental, Health and Safety financial matters
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	
☒ Local Expert for India, RSA and Spanish speaking countries			

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☒ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☒ TA 14.1	☒ TA 15.1	☒ TA 16.1		

Issue Date

5th December 2023



Ms. Priya Suman
Compliance Officer

Expiry Date

31st December 2024



Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
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Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history



Carbon Check (India) Private Limited

Certificate of Competency

Ms. Aparna Choudhary

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|--|--|---|---|
| ☒ Validator | ☒ Verifier | ☒ Team Leader | ☒ Technical Expert |
| ☐ Technical Reviewer | ☐ Health Expert | ☐ Gender Expert | ☐ Plastic Waste Expert |
| ☐ CCB Expert | ☐ Legal Expert | ☐ Financial Expert | ☐ Environmental, Health and Safety financial matters |
| ☒ SDG+ | ☒ Social no-harm(S+) | ☒ Environment no-harm(E+) | |
| ☒ Local Expert for India | | | |

in the following Technical Areas:

- | | | | | |
|--|--|----------------------------------|---|---|
| ☒ TA 1.1 | ☒ TA 1.2 | ☐ TA 2.1 | ☒ TA 3.1 | ☐ TA 4.1 |
| ☐ TA 4. n | ☐ TA 5.1 | ☐ TA 5.2 | ☐ TA 7.1 | ☐ TA 8.1 |
| ☐ TA 9.1 | ☐ TA 9.2 | ☐ TA 10.1 | ☒ TA 13.1 | ☒ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | ☐ TA 16.1 | | |

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

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CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Kiran KV

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|--|--|---|---|
| ☒ Validator | ☒ Verifier | ☒ Team Leader | ☒ Technical Expert |
| ☐ Technical Reviewer | ☐ Health Expert | ☐ Gender Expert | ☐ Plastic Waste Expert |
| ☐ CCB Expert | ☐ Legal Expert | ☐ Financial Expert | ☐ Environmental, Health and Safety financial matters |
| ☒ SDG+ | ☒ Social no-harm(S+) | ☒ Environment no-harm(E+) | |
| ☒ Local Expert for India | | | |

in the following Technical Areas:

- | | | | | |
|---|---|----------------------------------|---|---|
| ☐ TA 1.1 | ☒ TA 1.2 | ☐ TA 2.1 | ☒ TA 3.1 | ☐ TA 4.1 |
| ☐ TA 4. n | ☐ TA 5.1 | ☐ TA 5.2 | ☐ TA 7.1 | ☐ TA 8.1 |
| ☐ TA 9.1 | ☐ TA 9.2 | ☐ TA 10.1 | ☒ TA 13.1 | ☒ TA 13.2 |
| ☒ TA 14.1 | ☒ TA 15.1 | ☐ TA 16.1 | | |

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
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CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history



Carbon Check (India) Private Limited

Certificate of Competency

Ms. Indumathi C

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

- | | | | |
|--|--|---|---|
| ☒ Validator | ☒ Verifier | ☒ Team Leader | ☒ Technical Expert |
| ☒ Technical Reviewer | ☐ Health Expert | ☐ Gender Expert | ☒ Plastic Waste Expert |
| ☐ CCB Expert | ☐ Legal Expert | ☒ Financial Expert | ☐ Environmental, Health and Safety financial matters |
| ☒ SDG+ | ☒ Social no-harm(S+) | ☒ Environment no-harm(E+) | |
| ☒ Local Expert for India and Sri Lanka | | | |

in the following Technical Areas:

- | | | | | |
|--|--|----------------------------------|---|---|
| ☒ TA 1.1 | ☒ TA 1.2 | ☐ TA 2.1 | ☒ TA 3.1 | ☐ TA 4.1 |
| ☐ TA 4. n | ☐ TA 5.1 | ☐ TA 5.2 | ☐ TA 7.1 | ☐ TA 8.1 |
| ☐ TA 9.1 | ☐ TA 9.2 | ☐ TA 10.1 | ☒ TA 13.1 | ☒ TA 13.2 |
| ☐ TA 14.1 | ☐ TA 15.1 | ☐ TA 16.1 | | |

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022 ¹	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

¹ Please refer to previous version of FM 7.9 for the revision history

APPENDIX 5: LIST OF FINDINGS

CORRECTIVE ACTION REQUESTS (CARs) AND CLARIFICATION REQUESTS (CLs)

Finding	CAR 01		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	In accordance with the requirements of the §3.5.5 of the VCS Standard, version 4.5, PP has not used the latest version of the form for the monitoring report (version 4.3). The requirement of VCS standard version 4.5 should also be used in association with updated monitoring report.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The new version of the MR V4.3 has been used and updated accordingly. We have swapped to the new version and not reflected in tracked changes as the document would be difficult to read. Once we changed to the new format we then tracked all the changes for the remainder of the below findings so that they can found and checked easily.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has revised the MR to the latest available version which is version 4.3. PP is requested to provide the EIA and EMP report mentioned in section 2.1.3 of MR to VVB. PP is requested to provide the evidence to prove that the noise level was maintained below 63 Db at 10 meters from the plant as mentioned in section 2.2. The reference to the applicable regulation is also requested to be provided. Copies of Employment Equity Act and Companies employment equity policy and its posters as mentioned in section 2.3.1 of MR is to be provided to VVB.		
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Please find attached with this response a copy of the employment equity act, a guide to the employment equity act and a copy of our employment equity policy. Please also find the EIA and EMP folder for all the sites and a copy of the test certificate for the noise levels emitted from the plant. The applicable regulation is noted in the EIA document.		

VVB Assessment #2 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	It has been observed that all the above mentioned documents have been provided by PP to the VVB.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 02		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	Representation of parameter EGPJY in section 4.2 of MR is not in consistent with the registered PD. PP is requested to maintain consistency of the representation of parameter with its PD.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The has been corrected to match the current PD.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The data has been made consistent with PD.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 03		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	The value of EGPJY for Robinson deep and oundkoppies for the month of September and October 2023 in the ER sheet is found to be inconsistent with the invoices provided. PP is requested to correct the same.		

Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The have been corrected. The formula included the deemed energy values and these needed to be excluded. MR calculation sheet has been amended for Goudkoppies and Robinson for September and October 2023. The values have been updated in the MR to match.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	It has been observed that PP has not excluded the deemed energy for Robinson Deep in the month of September. Also, the value of BE _{ch4y} provided in section 5.1 of MR (131,699 tCO _{2e}) is not consistent with the ER sheet (131,698 tCO _{2e}). PP is requested to correct the same.
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The Deemed energy for September for Robinson Deep has been excluded and the value is section 5.1 of the MR corrected. We have also corrected all the values in the MR related to the reduction in the electricity generated component.
VVB Assessment #2 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has excluded the deemed energy of Robinson deep for the month of September and the electricity export value is now made consistent with the invoice. PP has also corrected the Bech4y value in the MR and is now in consistent with ER sheet.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 04		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	The data entered in the column for "Frequency of monitoring/recording" of parameter TEGm in section 4.2 of MR is not consistent with the PDD, PP is requested to maintain the consistency		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	This has been corrected to match the PD.		

VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The data has been made consistent with PD.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 05		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	It has been observed that PP has not provided the calculation procedure for the ex post determination of FCH ₄ , flared _y , and F,CH ₄ ,EL _y in section 5.1 of MR as explained in PDD. PP is requested to provide the same		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The formulas have been included in section 5.1 of the MR for FCH ₄ , flared _y , and F,CH ₄ ,EL _y .		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	It has been observed that PP has provided the calculation procedure in the MR.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 06		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	The total project emission provided in the "project emission" tab of ER sheet is 302 tCO ₂ while in section 5.4 of MR and the final ER calculation of ER sheet, it is given as 82 tCO ₂ . PP is requested to maintain the consistency.		

Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The formula in the ER sheet and the table in section 5.4 of the MR have been corrected and are now consistent through the documents.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The value of project emission has been provided in the section 5.4 of MR which is found to be consistent with ER sheet and other sections of MR.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 07		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	It has been observed that PP has provided the ex ante emission reduction as 602,442 tCO2 in section 5.4 of MR. This value is found to be the estimated emission reduction for the full year of 2023 as per section 1.10 of PDD. PP is requested to correct and provide the ex ante emission corresponding to the actual monitoring period.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	This value has been corrected to reflect a portion of the year and an explanation of the calculation has been provided in the foot note.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	It has been observed that PP has revised the ex ante emission reduction value which correspond to the applied monitoring period.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 08
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Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	The actual emission reduction value of the current monitoring period provided in section 1.1 and 1.10 of MR is found to be inconsistent with the ER sheet. PP is requested to correct the same. Also, PP is requested to provide the estimated emission reduction value corresponding to the monitoring period		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	These values have been corrected through the MR.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The values provided in section 1.1 and 1.12 (previously 1.10 as per the template version 4.2) has been revised to make it consistent with the ER sheet.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 09		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	PP is requested to add the verification history (previous and current) in the audit history table provided in section 1.1 of MR		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	We have added the verification History to this table.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The verification history is found to be added in section 1.1 of MR. However the current verification details is also requested to be added in the table.		

Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	We have added the current verification to the table in section 1.1 of the MR.
VVB Assessment #2 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	Current verification details has been added in the MR
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 10		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	PP is requested to provide the necessary evidence for the continues grievance redress procedure.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Please find attached to this response the minutes of the public consultation meetings as well as the grievance redress procedure and register.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the evidence for public consultation meeting evidence and grievance register. No grievance on the project site or operation of the project activity has been observed.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 11
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Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	Referring to VCS standard 4.5 PP is requested to provide evidences as mentioned in para 3.23.3 (Double counting and participation under other GHG programs), 3.24.4 (No double claiming with emission trading programs or binding emission limits), 3.24.6 (No double claiming with other forms of environmental credit) and 3.24.7 (supply chain (scope 3) emissions).		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Please note that the gas rights agreement with the City of Joburg who own the landfill sites covers the fact that the carbon credits belongs to the project. This is reinforced by the letter from the City confirming the that was issued in 2023. This specifically covers the methane destruction element. For the sale of electricity the Power Purchase Agreement and Implementation agreement which are linked notes in clause 7 of the Implementation Agreement that the carbon credits belong to the Seller. This is supported by an email sent to the buyer confirm that they are not permitted to double count benefit for the credits produced from the renewable electricity generation.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the required evidence to the VVB to prove that no double counting is being claimed from any sources.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 12		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	In section 4.2 of MR, the serial number of main flow meter is given as A309FB02000, while during the site inspection, the total flow meter serial number is found to be 99047502000. PP is requested to correct the same on the MR. Also, PP has provided the flare flow meter serial number and its calibration date as A309F902000 and 03/03/2023 respectively. The calibration certificate		

	with the same serial number is not provided to VVB. PP is requested to provide clarification on the same. Moreover, as per the calibration certificate of the electricity flow meter with serial number N8103802000, the calibration date is 29/08/2018, while in MR the calibration date is given as 15/12/2022. PP is requested to clarify the discrepancy.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The flow meter A309FB02000 was replaced on the 07/12/2023 as it has reached the end of the service period in terms of the OEM manufacturer and was taken out for routing calibration. This took place after the monitoring period and before the audit/site visit. Please find the instrument replacement form and calibration certificate attached for the replacement instrument. The flow meter with serial number N8103802000 was removed on the 30/04/2022 and sent for routing calibration and will have more than one calibration certificate. The current certificate which is attached to this response has a date of the 15/12/2022 which is the second certificate for the unit using the same serial number. As you can see it takes about 7 months for the units to be services and calibration at the factory.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the meter replacement form to VVB and has confirmed that the meter was replaced after the monitoring period but before the onsite visit. The calibration certificate of flow meter with serial number N8103802000 dated 15/12/2022 is not found among the response. PP is requested to provide the same.
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Please find a copy of the certificate included with this response.

VVB Assessment #2 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The requested calibration certificate has been provided to VVB.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☒ Outstanding finding (not closed) ☐ The finding is closed

Finding	CAR 13
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	It has been observed that the numerical values are not provided in internationally recognized format in several sections of MR. PP shall ensure that all the values provided in the MR are in accordance with the format required as per the MR template
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	We have applied the internationally recognised format for numerical values throughout the MR.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	It has been observed that PP has provided the values in the MR in the internationally recognized format.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 01
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	For the monitoring of the parameter" operation of the equipment that consumes LFG", PP has mentioned in the PD that the thermocouples should be calibrated

	every three months. However, the calibration document provided to VVB shows calibration and recalibration date is beyond the 3-month interval. PP is requested to clarify the delay in the calibration.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The servicing of the flare based on the OEM specification recommends a three monthly service schedule for the flare. We schedule these services as close to the three months as possible with most interventions being prior to the full three months term. However, there are instances where the service of the balance of the plant which includes the generators require us to schedule these a few days after the three months period to ensure smooth and safe operations. This delay is not more than a few days to accommodate the best time slots for the works to coincide. This has no impact on the plant or the calculation of the emission reductions as the site generates electricity 97% of the time and only used the flare as a back up when the generators are down.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the justification above which is deemed to be acceptable to VVB.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 02
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	The validity of calibration of electricity meter in Goudkoppies site is given as 23/08/2022 to 22/08/2032. However the calibration certificate provided to VVB shows that the date of calibration of this meter was on 18/08/2022. PP is requested to clarify on the discrepancy,
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	We have used the date of the covering page certificate and when it was signed off and not the second page which is the test date. The meter is only issued us on the date it was signed off and available for collection.

VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	It has been observed that the date of issue of calibration certificate was 23/08/2022. The justification provided by PP is deemed to be acceptable.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 03		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	The value of FCH4PJY provided in the ER sheet refers to the individual flow meter datasheet of each project location. It has been observed that the value provided in the sheet "output monthly report" of each datasheet refers to the rows U14 to U44643 of the sheet "ER calculations". However, some rows included in this range does not coincide with the monitoring period. PP is requested to clarify the inclusion of the unwanted data in the excel formula.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The monthly workbooks are designed for a 31-day month and as such for months with less days in them the ER sheets check if this data is available. The additional periods in the ER sheet will not pull through any values as there are none available besides the fact that the ER sheet undertakes an operations check and the monthly report sheet will also only pull through data specific to the days of the month. So there is data included for periods outside of the monitoring period as result of these two checks.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	Based on the review of the above-mentioned files, It has been observed that the unwanted data in the above mentioned column is not considered for the ER calculation and therefore the justification provided by PP is deemed to be acceptable.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CL 04
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	The electricity meter readings considered for the calculation of value for the parameter “Quantity of electricity consumed by the project electricity consumption source in year y” for the site Marie Louise is found to be non continues from December 2022 to November 2023 as provided in the cell C35 to C46 of tab “project emissions” in ER sheet. PP is requested to clarify the discrepancy in meter readings. PP is also requested to provide the source of the value (invoices) of Marie Louise site of the parameter to VVB as it is found to be missing among the supporting documents.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Eskom who are the supplier did not read the meter but rather billed us on forecasted consumption. This was detected and raised with Eskom who then in April of 2022 corrected the billing and started to bill us based on actual reading. This is evidenced by the credit issued by them in August 2022. The supporting documents can be found under Marie Louise, subfolder Eskom electricity which has a folder with all the invoices for electricity for the site including the credit note. We included the billed readings in the ER table so that they match the invoices so as to be able to audit the readings together with the invoices.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The electricity consumption value for the month of March provided in the ER sheet is found to be inconsistent with the invoice provided by Eskom after the correction. PP is requested to maintain the consistency. PP is also requested to provide the actual electricity consumption data for the month from Dec 2022 to Feb 2022 to VVB as the values mentioned in the ER sheet and invoices are the estimated values. Also, the invoices of electricity consumption of Roginson deep is also requested to provide to VVB.
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Please note that the initial response above should read: “This was detected and raised with Eskom who then in April of 2023 corrected the billing and started to bill us based on actual reading. This is evidenced by the credit issued by them in August 2023.” THE value for March has been corrected but this value is taken as the opening reading in the April bill.

	This correction has resulted in a change in electricity consumed values and these have been corrected throughout the MR. Robinson Deep does not get invoiced for electricity used at this site as this is supplied under the contract with the City through Pickup who benefit from the royalties from this project in return but the meter readings are collected for this parameter as required.
VVB Assessment #2 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	Project proponent has provided the revised value for the month of march which is now consistent with the invoice. The actual meter reading of December 2022, which is found to be 53,680 KWh, which has been verified from the meter reading photographs. Moreover, the value mentioned in the invoice provided by Eskom gives an overall negative value of project emission which is less conservative than the real value. Therefore, the use of value provided by PP based on the meter photograph is deemed to be acceptable to VVB.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☐ The finding is closed

Finding	CL 05		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	PP is requested to cross check the final unit of the FCH4flared value provided in the column S of tab "ER calculations" of monthly flare datasheets" as the final unit is provided in tonnes while the calculation does not provide the same unit. PP is requested to clarify on the same.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	This has been corrected to: t CO2e.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has performed the corrections in the monthly flare data and the corrected calculation is found to be consistent as per MR, PD and Methodology.		

Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed
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Finding	CL 06
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	For the calculation of PEflarey included in the FCH4flarey calculation provided in the column Y of monthly flare data worksheet, tab "ER calculations", PP has referred to the column S". PP is requested to provide a justification as the column S provides the value for FCH4flared while the actual reference should have been for FCH4RGM which is not provided.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	This has been corrected in the updated Workbooks sheet.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has performed the corrections in the monthly flare data and the corrected calculation is found to be consistent as per MR, PD and Methodology
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 07
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	The name of the organisation provided in section 1.4 of MR is inconsistent with the registered PD. PP is requested to clarify the discrepancy. Also, Promethium Carbon has been provided as other entities involved in the project as per PD. While such information is not provided in MR. PP is requested to clarify on this as well.

Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	They assisted in the development of the project design document. We have included their details in the updated MR.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the name of the project proponent as "ENERGY Joburg RF (PTY) Limited" in MR while in PD, It is given as "ENER-G Systems Joburg (PTY) LTD". PP is requested to clarify the discrepancy.
Corrective Action or clarification #2 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Please find attached the name change certificate for the company.
VVB Assessment #2 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	Project proponent has provided the name of change acceptance letter/31/ from "The Companies and Intellectual Property Commission of South Africa" to VVB as a proof of evidence for the change of name.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 08
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding (VVB)	The calibration frequency of CH4 gas analyser is given as 1 year in section 4.2 of MR. For Robinson Deep, PP is requested to provide the calibration date available prior to 22/03/2023 and confirm the validity of the calibration during the monitoring period. For marie Louis, PP is requested to provide the calibration date available after 04/10/2022 as the validity of one year expires on 03/10/2023 and the validity of calibration for the rest of the monitoring period to be clarified.

	For Goudkoppies, PP is requested to provide the calibration date available prior to 05/01/2023 to confirm the validity of the gas analyser during the monitoring period prior to this date.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Despite calibration being required annually we calibration the instrument on a weekly basis. Please see the calibration sheet for each site in the CL09 folder provided with this response that cover the whole of 2022 and 2023.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the weekly calibration data to VVB.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed