

GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT-VERIFICATION



Project Title: Adana Landfill Waste Management Project Turkey
Monitoring Period: 03/10/2022 to 31/07/2023¹ (Both days included)
GS project ID: GS 715
Internal ID: A+SH_SYST_TQC_GS_VER_15623
Customer: Climate Balanced İklim Enerji Ticaret ve Eğitim Ltd. Şti.
Date: 07/01/2026
Revision: 06

¹ Due to the delay in design certification renewal, there is a gap of issuance of emission reduction from 01/01/2018 to the start of this monitoring period. The deviation request dated 17/01/2022 regarding this issue was not approved.

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
A+SH_SYST_TQC_GS_VER_15623	28/02/2025	06	07/01/2026
GS4GG Verification			
GS4GG Certified Product (sought):		GS VER	
GS4GG SDG Impact Statement(sought):		Impact Certification	
General Information			
Client	Climate Balanced İklim Enerji Ticaret ve Eğitim Ltd. Şti.		
Project Title	Adana Landfill Waste Management Project Turkey		
Project Participants	ITC Invest Trading & Consulting A.G.		
Project Location	Sofulu district of Adana province, Türkiye		
Contact Person	Mr. Mehmet Gültekin		
Monitoring Period:	03/10/2022 to 31/07/2023 (Both days included)		
GS4GG Version: GS4GG Principles and Requirements 2.1 GS4GG Activity Requirements: RE Activity Requirements, version 1.4 GHG emissions reduction & sequestration product requirements Version 3.1 Applied Methodology Version: ACM0001: Flaring or use of landfill gas Version 19.0		GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1 & 13 Technical Area: 1.1 & 13.1	
Monitoring Report Version: 01 Date: 02/10/2023		Final Monitoring Report Version: 08 Date: 06/01/2026	
Certified Project Design Document Version: Assessment team checked the registered GS PDD Version: 10.5 Date: 14/03/2023 (second crediting period) Date of project design certification: 13/06/2012			
Estimated values for all SDG:			
SDG	SDG	Values	
7	Renewable Electricity Generated	115,500 MWh electricity generation (annual) 95,564 MWh electricity generation for current M.P.	
8	Trainings provided to O&M staff	01 Trainings provided to O&M Staff (annual) 01 Trainings provided to O&M Staff for current M.P.	
8	Number of Jobs generated	10 (annual) 05 (current M.P.)	
13	Emission Reduction	276,889 tCO ₂ e (annual) 229,097 tCO ₂ e for current M.P.	
Actual values for the Monitoring period for all SDG:			
SDG	SDG	Actual values for this monitoring period	
7	Renewable Electricity Generated	8,709 MWh electricity generation	
8	Trainings provided to O&M staff	02 Trainings provided to O&M Staff	

SUMMARY		
8	Number of Jobs generated	10 employments created
13	Emission Reduction	46,760 tCO ₂ e emission reduction
Selected Sustainable Development Goals (SDGs): 7; 8; 13		
Verification Summary		
LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by ITC Invest Trading & Consulting AG Ankara Branch to perform the 1st verification (under second crediting period) of "Adana Landfill Waste Management Project Turkey" (Ref. No. GS 715) applying the methodology ACM0001 Version 19.0^{4/}. The management of ITC Invest Trading & Consulting A.G. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions. A desk review and an onsite audit has been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed: - The registered PDD including the monitoring plan; - Monitoring report(s); - The applied monitoring methodology; - Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board; - GS4GG guideline and related Annex. - All information and references relevant to the project activity's resulting in emission reductions. ITC Invest Trading & Consulting A.G. is the promoter of Adana Landfill Waste Management Project Turkey (hereafter referred to as "the Project") the project activity and involves installation of the total installed capacity of the electricity generation unit under the project activity is 15.565² MW located in Adana Province, Türkiye³. Electricity generated from the project activity is exported to Türkiye National Grid. As per GS4GG PDD^{3/}, the project replaces anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 276,889 tCO₂e per annum and 229,097 tCO₂e for current monitoring period there on displacing 115,500 MWh/year and 95,564 MWh for current MP amount of electricity from the generation-mix of power plants connected to the Türkiye National Grid, which is mainly dominated by thermal/ fossil fuel-based power plant. The project activity was commissioned in three phases, detail are as follows: - The monitoring of emission reduction and sustainable development indicators has been carried out in accordance with respective registered PDD^{3/}. Applus+ Certification confirms that the project is implemented in accordance with the validated and registered PDD^{3/}. The monitoring plan complies with the applied methodology ACM0001 Version 19.0^{4/} and the GS4GG guideline the monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material moments. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 46,760 tCO₂e emission reductions during period 03/10/2022 to 31/07/2023 (Both days included). All CARs & CLs raised by VVB & any FARs raised by Sustain-cert/GS during design certification review/pervious performance reviews shall be resolved prior to submitting a request for issuance.		

² The Generation License obtained from EMRA (Electricity Market Regulatory Authority is available to the DOE)

³ Turkey adopted its official name, Türkiye Cumhuriyeti, known in English as the Republic of Turkey or more commonly known as Turkey, upon the declaration of the republic on 29 October 1923. In 2021, however, via the UN, Turkey changed its spelling to Türkiye.

SUMMARY

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

Please refer Appendix 1 of this report. Total numbers of CARs: 04, CLs: 06, FARs: 01 (From Design Renewal Review Documents).

ASSESSMENT TEAM		
Team Members	Type of Resource ⁴	Organization (for OEs)
Former ⁵ (Lead Auditor: Dr. Atul Takarkhede)	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Former (Technical Expert (TE) & GS Approved Auditor: Dr. Atul Takarkhede)	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
(Former) Lead Auditor (LA)/Technical Expert (TE) & GS Approved Auditor: Mr. Deepak Pundlik ⁶	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Lead Auditor (LA)/Technical Expert (TE) & GS Approved Auditor: Mr. Ishan Shrivastava	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Observer: Khagesh Sharma	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Local Expert: Dr. Yusuf Serengil	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Reviewer/ Technical Expert: Mr. David Lubanga	☐ IR ☒ EI ☐ OE	Applus+ Certification
Technical Reviewer/ Technical Expert: Mr. Denny Xue	☐ IR ☒ EI ☐ OE	Applus+ Certification

Note: in line with the GS Rule Update RU 2020 PR – PR V1.2 of (Paragraph 5.1.28) dated on 02/04/2020, the VVB hereby discloses that the VVB has performed Validation for RCP of this project with different team i.e. Mr. Pankaj Kumar (TL) & Mr. Simon Shen (TR). Thus, VVB has complied VVB rotation rule.

⁴ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

⁵ Dr. Atul Takarkhede served as the initial Lead Auditor and Technical Expert for this project. He conducted the onsite assessment and prepared the preliminary draft of the verification report with his characteristic diligence and expertise. However, as he is no longer associated with True Quality Certification effective 1st -July-2025, Mr. Deepak Pundlik has been appointed as the new Lead Auditor and Technical Expert to oversee the subsequent stages and ensure the seamless continuation and final submission of this project activity

⁶ Dr. Atul Takarkhede initially led the project, conducting the onsite assessment and preparing the draft verification report. After his departure from True Quality Certification on 1st July 2025, Mr. Deepak Pundlik worked on the project until 10th October 2025 following a proper handover. Currently, Mr. Ishan Shrivastava has been appointed as the new Team Lead. It is noted that Mr. Deepak Pundlik is not associated with True Quality Certification.

ABBREVIATIONS	
ACM	Approved Consolidated Methodology
AM	Approved Methodology
Applus+ LGAI / Applus+	LGAI Technological Center, S.A. (Applus+ Certification)
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CL / CR	Clarification Request
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
tCO₂e	Tonnes of Carbon Dioxide equivalent
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
UNFCCC	United Nations Framework Convention for Climate Change
VER	Voluntary Emission Reductions
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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1. INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Climate Balanced İklim Enerji Ticaret ve Eğitim Ltd. Şti. to perform the 1st verification under second crediting period of “Adana Landfill Waste Management Project Turkey” applying the methodology ACM0001 Version 19.0^{/4/} and GS4GG guideline. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard VERs.

The objective of the verification work is to assess the compliance with the requirements of paragraph 62 of the CDM Modalities and Procedures as well as the GS4GG guidelines and relevant Principles and Requirements.

According to this assessment Applus+ Certification shall:

- Ensure that the project activity has been implemented and operated as per the registered PDD and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- Ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable CDM validation and verification standard for project activities, Version 03.0^{/5/} and GS4GG Validation and Verification Standard, version 2.0 for the project activities and Gold Standard (i.e., applicable GS4GG requirements);
- Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- Evaluate the data recorded and stored as per the ACM0001 Version 19.0^{/4/}.

1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the VVB. The verification is based on the submitted monitoring report, registered PDD as well as its Verification report, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the EB, GS4GG guideline and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures, GS4GG guideline and relevant Principles and Requirements, as well as their related rules and guidance.

Based on the requirements in the CDM validation and verification standard for project activities, Version 03.0 and GS4GG Validation and Verification Standard, version 2.0 for the project activities as well as the GS4GG guidelines, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability, and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions. The verification also considers the monitoring of SDG goals as per the requirement of GS4GG guideline.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

1.3 Description of the project activity

ITC Invest Trading & Consulting A.G. is the promoter of the project activity and it was verified during the site visit conducted on 05/12/2023 that the proposed project activity has been implemented and it is in operation in accordance with the project activity described in the registered PDD. Project includes two activities, one being the LFG extraction and utilization project and the other one is the anaerobic digesters biogas generation and utilization. However, the anaerobic digester installed within the project activity is deactivated on 04/07/2022 at 02:00 PM. As a consequence of deactivation of anaerobic digester, 7 gas engines with the total capacity of 9.905 MW that were previously operated using biogas from the anaerobic digester are currently operated using landfill gas. The total volume of landfill gas captured is currently used to operate gas engines with cumulative capacity of 15.565 MW. Electricity generated from the project activity is exported to Türkiye National Grid. As per GS4GG PDD^{/3/}, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 276,889 tCO_{2e} per annum by exporting approximately 115,500 MWh/year to the unified Türkiye National Grid. Assessment team verified that; With a combined capacity of 9.905 MW, seven gas engine units have been installed specifically for the extraction of landfill gas from the region.

The detail of the project location is mentioned in the table:

Location	Latitude	Longitude
Sofulu district of Adana province. Adana landfill receives fresh waste from the municipalities of Adana Greater Municipality	37°3'1.93"N	35°23'44.22" E

The monitoring of emission reduction and sustainable development indicators have been carried out in accordance with respective registered PDD.

2. METHODOLOGY

Applus+ Certification approach to the verification is a two-stage process. In the 1st stage, Applus+ Certification completed a strategic review and risk assessment of the project's activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and

- Compilation of the monitoring report.

Applus+ Certification's Verification is based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan. .

In the 2nd stage, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved an onsite audit and a desk review of the Monitoring Report, further VVB team verified SDG implementation and taken feedback through local stakeholders for project also grievance register maintained at site for any Grievance related to project activity of local stakeholders. This Verification Report describes the findings of this assessment.

2.1 Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center, S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center, S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center, S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) /Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).
- Other supporting roles such as Country Expert (CE) or Local Expert (LE) or Financial Expert (FE) or GS Approved auditor
- Any of the above-mentioned roles in training (iT, e.g. AiT for auditor in training/TEiT for Technical Expert in Trainee).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Dr. Atul Takarkhede	Former (LA, TE & GS Approved Auditor) ⁷	YES	YES	N/A	YES

⁷ Dr. Atul Takarkhede served as the initial Lead Auditor and Technical Expert for this project. He conducted the onsite assessment and prepared the preliminary draft of the verification report with his characteristic diligence and expertise. However, as he is no longer

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Deepak Pundlik ⁸	Former (LA, TE & GS Approved Auditor)	YES	YES	N/A	YES
Mr. Ishan Shrivastava	LA, TE & GS Approved Auditor	YES	YES	N/A	YES
Mr. Khagesh Sharma	Observer	NO	NO	N/A	NO
Dr. Yusuf Serengil	Local Expert	N/A	N/A	N/A	YES
Mr. David Lubanga	TR/TE	YES	YES	N/A	N/A
Mr. Denny Xue	TE/TE	YES	YES	N/A	N/A

The complete list of CVs is included as Appendix 03 of this report.

2.2 Document review

The Monitoring Report version 01^{1/} was submitted to VVB before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- Verify the completeness of the data and the information presented in the MR;
- Check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD, verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures of the power plant was checked by the assessment team.
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
- Please check reference 4 of this report for detail of the documents checked.

associated with True Quality Certification effective 1st -July-2025, Mr. Deepak Pundlik has been appointed as the new Lead Auditor and Technical Expert to oversee the subsequent stages and ensure the seamless continuation and final submission of this project activity

⁸ Dr. Atul Takarkhede initially led the project, conducting the onsite assessment and preparing the draft verification report. After his departure from True Quality Certification on 1st July 2025, Mr. Deepak Pundlik worked on the project until 10th October 2025 following a proper handover. Currently, Mr. Ishan Shrivastava has been appointed as the new Team Lead. It is noted that Mr. Deepak Pundlik is not associated with True Quality Certification.

2.3 On Site assessment and follow up interviews

VVB onsite team has taken verbal consent from the interviewees for the inclusion of their names in the Verification report which is any public document and available on GS portal publicly. All the interviewees given their consent for the same hence below details of the various stakeholders provided here in line with the para 9.7.2 (e) of GS Validation and Verification Standard V2.0. The details activity done during Site visit is as below:

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Gültekin	Mehmet	PP representative	05/12/2023 Onsite Audit –Sofulu District, Adana Province of Turkey)	Project implementation,	Dr. Atul Takarkhede (Lead Auditor, Technical Expert & GS Approved Auditor) and Dr. Yusuf Serengil (LE)
2	Dastas	Otser	ITC Adana Power Plant Chief		Project implementation, Grievance mechanism etc.	
3.	Kurt	Canan	Engineer ITC		Baseline emissions, ER calculations, Sustainable monitoring,	
4.	Rajput	Pankaj	EKI Consultant		Training and practice of the operational personnel, Monitoring data management, Maintenance, Compliance to regulatory requirements, Environmental and social issues, Projects contribution to sustainable development	
4.	Uzun	Yalan	Mukhtar of the village		Stakeholder meeting- Employment opportunities, Standard of Livings etc.	
5.	Yalan	Dilara	Local Villager (Teacher)			
6.	Seviac	Fatma	Local Villager (Teacher)			

The objective of the on-site assessment is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Check the monitoring equipment against the requirements of the PDD, PDD and the approved methodology, including calibrations, maintenance, etc.;
- Review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.
- Confirm the SDG goals/ Sustainable monitoring parameter as per the registered PDD
- To understand grievance (if any) from the villagers during the monitoring period, local stakeholders were interviewed.

2.4 Quality of evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the Final MR^{1/}. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

2.5 Reporting of findings

As an outcome of the verification process, the assessment team can raise different types of findings.

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

- Non-compliance with the monitoring plan or methodology are found in monitoring and reporting has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

The assessment team shall raise a Clarification Request (CR) if information is insufficient or not clear enough to determine whether the applicable CDM/GS requirements have been met.

All CARs & CLs raised during this verification & any FARs raised by GS/Sustain-Cert during design review/previous performance reviews shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

Please refer Appendix 1 of this report. Total numbers of CARs: 04, CLs: 06, FARs: 01 (Raised by Design Renewal Review).

2.6 Internal Quality Control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the VVB's Technical Manager or the Deputy. This approval process also includes another quality assurance check in terms of Administrative Review. In case one of these two persons is part of the assessment team, the final approval can only be given by the person who is not a part of the assessment team.

If the documents have been satisfactorily approved, the final documents are submitted to the PP/client for Request for Issuance submission to the GS Registry along with the relevant documents.

3. VERIFICATION FINDINGS

3.1 FARs from Validation / Previous Verification

This is 1st Verification of the 2nd crediting period for the project activity. 1 FARs raised during Design Renewal Review. No FAR pending from former verification of the 1st crediting period. Same has been addressed in the Appendix 01 of the verification report.

3.2 Project Implementation in accordance with the registered Project Design Document

The project activity was fully implemented according to the description presented in the registered PDD. The assessment team confirms, through the interview with the PP representative during onsite audit and document review that all physical features of the project activity including data collecting systems and storage have been implemented in accordance with the registered PDD for GS4GG.

The technical features of the equipment's have been verified by the assessment team by reviewing following documentation:

- Interviews of onsite personnel's during onsite audit
- Technical detail analysis of the power plant from the documents submitted by the manufacturer.
- Commissioning certificates of the plant
- PPA for the project activity

ITC Invest Trading & Consulting A.G. has installed 15.565 MW, 11 units of LFG engine have been installed with a total capacity of 9.905 MW, the anaerobic digester installed within the project activity was deactivated on 04/07/2022, at 2:00 PM. Consequently, the seven gas engines with a total capacity of 9.905 MW, which previously operated on biogas from the anaerobic digester, are now exclusively fuelled by landfill gas. Furthermore, the total volume of landfill gas captured is currently utilized to operate gas engines with a cumulative capacity of 15.565 MW.". Key

components technical specification for project activity –11 sets of GE Jenbacher gas engines installed within the scope of the project activity. An enclosed flare system is also installed to burn the excess LFG in a controlled environment and disposal of it safely to the atmosphere. The specifications of gas engine are given in Table below.

Manufacturer	Engine Type	Capacity (MWm / MWe)	Gas Volume (Full Load to Part Load)	Electrical Efficiency (Full Load to Part Load)
GE Jenbacher GmbH & Co OG	JGS 420 GS-B121	Electrical Generation Capacity - 1.415 MW Mechanical capacity - 1.450 MW	Full load - 755 Nm ³ /h Part Load - 583 / 410 Nm ³ /h	Full load 41.6 % Part Load - 40.4 / 38.1 %

Technical specifications of project activity are provided in section B.1 of the MR. Same are confirmed during the onsite visit & interviews with PP and specification document, commissioning certificates^{/11/}, Verification report^{/3/} and found correct.

Net electricity generation is measured and recorded via meters sealed by TEİAŞ^{/19/} for billing purposes. Therefore, no new additional protocol is needed for monitoring emission reduction. Power Plant Manager, is responsible for the electricity generated, gathering all relevant data, and keeping the records. Generation data collected during crediting period is submitted to Project Manager who is responsible for calculating the emission reduction subject to verification:

The project activity was in normal operational during the monitoring period and the same has been confirmed during site visit interviews with PP and crosschecked from review of monthly settlement notification EPIA submitted by PP. Landfill waste management Power plant was working throughout the monitoring period and same have been conformed from monthly settlement notification EPIAS^{/19/} values. No unusual activates observed during the monitoring period and plant was undergone scheduled as well as emergency maintenance as per the recommendation of the manufacturers. No forced breakdown^{/18/} observed and the same is confirmed by the assessment team with the plant log details and monthly settlement notification EPIAS^{/20/} further assessment team cross verified with EPIAS value with TPIAS Turkish Electricity Transmission Company (TEİAŞ)^{/19/} data. The verification team has reviewed the commissioning certificates & PPA to conclude that the capacity of the project is same as mentioned in the registered GS PDD and explained by PP during site visit interviews. The capacity of the project activity does not change after the registration of the project activity and same have been confirmed from the commissioning certificate, PPA^{/17/} and EPIAS issued by TEİAŞ^{/19/} and Invoices raised by the PP towards (TPIAS) Turkish Electricity Transmission Company (TEİAŞ). Also, from review of other documents such as Commissioning certificate^{/10/}, PPA^{/16/} & EPIAS^{/20/}, it was observed that the rated capacity of the project is 9.905 MW. The project activity consists 11 unit of LFG engine with a unit installed capacity of 1.4 MW. The project activity is a Waste Handling and Disposal project along with electricity generation units and qualifies under large scale projects. In accordance with GS Product Requirement - GHG Emissions Reduction & Sequestration

Product Requirements, Version 3.1. Paragraph 9: Project Scale, All Projects exceeding the small-scale thresholds are defined as large scale. The project activity being a landfill gas and alternate water treatment measures belongs to Type 3: Other project activities. Since the annualized emission reduction from the project activity of 276,889 tCO₂e/year is higher than small-scale thresholds of 60,000 tCO₂e per year in any year of the crediting period therefore the project activity complies to the large-scale project activity).

The Plant is located in Sofulu district of Adana province of Turkiye Assessment team also checked the locations of the project activity in the registered PDD^{/3/}, validation report^{/3/}.

Generation data is used to prepare monitoring reports which are used to determine the vintage from the project activity. Installation of meter and data monitoring are carried out according to the regulations by TEIAS. Two metering devices (one of them used as spare) are used for monitoring the electricity generated by the power plant. Readings are being done using main metering devices and spare metering device is used for comparison only. Data from metering devices is recorded by TEIAS monthly (through remote reading).

Two calibrated meters backup each other. Maintenance and calibration of the metering devices are made by TEIAS. If there is a significant difference between the readings of two devices, maintenance and tests of the metering devices and the associated equipment are done before waiting for the periodical maintenance. The meters should comply with EPDK regulations which define the accuracy class of the meters as 0.5 capacity of the circuit. EPIAS records will be taken in consideration while calculating net electricity generation by the plant. ISVM (Electricity fed to the grid) and UECM (Electricity consumed from the grid) data given in the EPIAS records are used for emission reduction calculations. Meters at the site will be used for crosscheck. All data is kept for at least two years after the crediting period for QA/QC purposes.

Calibration of the metering devices is made by TEIAS and sealed before the commissioning of the power plant. The meters are calibrated by TEIAS when there is an inconsistency between two devices.

Although the digester was decommissioned, this change does not impact the applicability of the registered PDD requirements for the project's current operational scope. The decommissioning was a technical adjustment made during operations, and the core project design, as implemented, remains consistent with the registered methodology and eligible activities. Since the digester was not a functional requirement for the emission reduction calculations or the applied monitoring parameters, its removal does not necessitate an update in the CP II PDD. Therefore, the project continues to operate in alignment with the registered PDD for all relevant monitoring and verification purposes.

The amount of GS-VERs achieved during the present monitoring period are 79.59%⁹ lower than the estimated value in the PDD. This is not in not in control of PP, due to the lower PLF during the monitoring period.

⁹ The achieved ERs for the current monitoring period are 46,760 tCO₂e against the estimated value of 229,097 tCO₂e. I. e. reduction observed is 79.59%

Assessment team also checked the metering details of the connected Landfill plant and found the same to be appropriate. Feeder details were confirmed from the onsite interviews with PP, and commissioning certificate submitted by PP.

Assessment team also checked that the projects are not registered under the REC mechanism of International REC (I-REC) registry (<https://evident.services/device-register>) is cross-checked and found that this project is not under I-REC. Thus, double counting for the current monitoring period is ruled out. Assessment team checked No double counting declaration dated 03/01/2024 in which is found that project activity is not participating in any other GHG program and Emission trading program. Also, project activity does not result in creation of another form of environmental credit during the monitoring period for which GSVERs are claimed. Thus, double counting for the current monitoring period is ruled out.

Assessment team also checked the other registry like UNFCCC and VCS and found that project is not registered with UNFCCC or VCS.

There are no framework/policies defined by host country government for the registered projects under various carbon credit schemes till date for NDC targets. Thus, project is not part of the NDC target and same was confirmed from the review of government policies and initiatives taken. Thus accepted.

VVB team verified that Annual report dated 26/12/2024 for the monitoring period 03/10/2022 to 31/07/2023 is uploaded on the GS-website.

Grievance Mechanism:

During the interviews with the PP, the verification team confirmed that there is a grievance book^{15/} with GS contact information at the project site office and are accessible to local stakeholders. By checking grievance book^{15/} submitted by PP, it was able to confirm there are no comments received from the local people for the present monitoring period regarding Health and Safety towards project activity. These grievances were closed by the Project Developer. Local people are happy with the implementation of the project activity as it entrusts employment and improve living standard of local people and villagers.

No legal contest or dispute has arisen during Monitoring period team has confirmed the same from the annual report of the calendar year 2023 during monitoring period (03/10/2022 – 31/07/2023) and also confirmed from the PP during the onsite interview.

Materiality adopted in Verification:

Consideration of materiality in planning the verification

No.	Risk that would lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk levels	Justification	
1	Human errors: Readings from Meters (if not automatic)	LOW	Human error is likely to occur if the monitoring personnel are not trained well or inexperienced in data recording procedures and	All the personnel are well trained to monitor and collect data and thus risk associated with Human error is minimized. Assessment team checked the training records to confirm that all the personal are well trained to handle the activities related to

No.	Risk that would lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk levels	Justification	
			monitoring processes.	monitoring. Assessment team checked the training records for the complete monitoring period and confirm that the personal are well trained to monitor and collect data for the project activity.
2	Human error: Quantification of emission reduction	LOW	Use of spread sheets without adequate data control, changes/updates, version tracking, traceability, and security	All the energy Statement, Monthly TEIAS statement records and the invoices for the complete monitoring period are checked and thus the assessment team confirms that the ER value is conservative and correct.

Consideration of materiality in conducting the verification

In line with Guidelines for V2.0_PAR_Validation-and-Verification-Standard^{/5/}, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. It invoices follows the paper trail back to the raw data such as meter reading records and invoices.

Emission Reductions (tCO ₂ e)/year	500,000 or more	300,000 to 500,000	300,000 or less	Micro Scale projects
Materiality Threshold para (9.6.3) of Validation-and-Verification-Standard version 2.0	0.5%	1.0%	2.0%	10.0%

The applicable materiality threshold is 2% for project activity as achieved ERs were lower than 300,000 tCO₂e/year as per requirement of V2.0_PAR_Validation-and-Verification-Standard^{/5/}.

Particulars / Monitoring Report	MR Version (Initial)	MR Version (Revised/Final)
Emission Reductions Achieved (tCO ₂ e) in this monitoring period	49,742 tCO ₂ e	46,760 tCO ₂ e
Applicable Threshold (%) as per para 9.6.3 of Validation-and-Verification-Standard version 2.0 ^{/5/}	2.0%	2.0%

Assessment team verified that; The decreased in emission reductions from the initial to the final monitoring report is due to refined data accuracy, improved calculations, and incorporation of updated monitoring parameters, ensuring compliance with the Validation and Verification Standard (Version 2.0, Para 9.6.3). The initial monitoring report was based on preliminary data, whereas the final report reflects comprehensive validation, updated emission factors, and

corrected anomalies identified during the verification process. This adjustment resulted in a decreased exceeding the 2% threshold, which is justified by the application of precise monitoring methodologies, ensuring an accurate representation of actual emission reductions.

The verification team has identified the impact of errors observed and those were corrected by PP during verification for all monitoring parameters at the individual level. There are no material errors, overestimation of ER, omission, or misstatement.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The verification team can confirm that the monitoring plan is in accordance with the approved methodology ACM0001 Version 19.0^{4/}, applied by the GS project activity.

As per the registered PDD (Version 10.5), the project included both landfill gas (LFG) utilization and anaerobic digester biogas generation; however, the anaerobic digester was permanently deactivated on 04/07/2022, after which the seven gas engines (9.905 MW) previously using biogas are now operated entirely on LFG, making the current total capacity 15.565 MW. Consequently, monitoring parameters exclusively related to anaerobic digester operation and biogas generation were intentionally excluded from the monitoring plan for the current monitoring period. Excluded parameter are mentioned below;

- W_x : This ex-post parameter is excluded since it was used in the calculation of ER from the AD component as per the ACM00022 methodology (i.e. first order decay approach)
- $p_{n,j,x}, Z_x$: This ex-post parameter is excluded since it was used in the calculation of baseline emissions related with Anaerobic Digestion as previously indicated in the registered 2nd CP PDD.
- $V_{t,db,AD}, / V_{CH4,t,db,AD}, / T_{t,AD}$: These ex-post parameters are also excluded from the monitoring parameters since the parameters are used to monitor the AD component as included in the parameter's name.

The assessment team confirms that this exclusion constitutes a change to the monitoring of a certified project activity and is found to be in line with Paragraph 8.1.1(b) of the 'Design Change Request Requirements and Procedures', Version 2.0, which allows changes to the monitoring of a certified project activity that have no material impact on the applicability of the applied methodologies, other standard documents, or the accuracy and completeness of the monitoring.

Emission avoidance is therefore solely based on landfill gas capture and electricity generation supplied to the grid, with no change in project capacity, no adverse impact on additionality, and no additional environmental implications. The change falls under para 8.1.1(c) of the Design Change Requirements, as the applied methodology ACM0001 remains applicable while ACM0022 is no longer required, with no impact on scale, additionality, or safeguarding outcomes. Although the issuance request will be submitted more than a year after the decommissioning, the one-year submission deadline is not applicable since no new technology/measure has been introduced, a position confirmed by GS Secretariat. Accordingly, the deactivation of the anaerobic digester and corresponding adjustments in the monitoring report are in compliance with Gold Standard requirements.

3.4 Completeness of Monitoring

The assessment team confirms that completeness of monitoring has been assessed with respect to the operational scope of the project during the monitoring period. As the anaerobic biodigester was permanently decommissioned prior to the monitoring period, no anaerobic digestion, biogas generation, or methane avoidance from this component occurred during the monitoring period.

Accordingly, parameters related to anaerobic digester feedstock input, biogas flow, methane content in biogas, electricity generation from biogas, and methane avoidance calculations were not monitored by design and have been intentionally excluded from the Monitoring Report. This exclusion does not represent a monitoring gap.

All parameters relevant to landfill gas capture, electricity generation, grid export, and emission reduction calculations under ACM0001 Version 19.0 were monitored at the required frequency with appropriate QA/QC procedures. Therefore, monitoring for the current monitoring period is considered complete for all applicable parameters

The monitoring has been carried out in accordance with the monitoring plan contained in the GS PDD^{/3/}. All parameters were monitored and determined as per the monitoring plan of the GS PDD as follows:

a. Data and parameters fixed ex ante or at renewable of crediting period

Following are the ex-ante fixed parameters described below.

The values considered ex-ante for this monitoring period were cross-checked with registered PDD^{/3/}, and their respective sources. The summary of all the ex-ante parameters has been given below:

Parameter/ Description	Value applied	MoV
OX_{top-layer} Fraction of methane that would be oxidized in the top layer of the SWDS in the baseline	0.1	The value is considered based on methodological tool "Emissions from solid waste disposal sites, version 08.0" and is consistent with how oxidation is accounted for and found correct
GWP_{CH4} Global Warming Potential of methane	28 tCO ₂ e/tCH ₄	The value applied is as per Default value from IPCC Sixth Assessment Report (AR6) available at https://www.ipcc.ch/assessment-report/ar6/ and found correct.
n_{p,j} Efficiency of the LFG capture system that will be installed in the project activity	50%	Assessment team verified that; The value applied is Default value under ACM0001, version 19.0 and hence accepted
R_u Universal ideal gases constant	8.314 Pa.m ³ /kmol.K	The value applied is as referred under "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" and hence accepted.

Parameter/ Description	Value applied		MoV		
MM_{CH4} Molecular mass of CH4	16.04 kg/kmol		The value applied is As referred under "Tool to determine the mass flow of a greenhouse gas in a gaseous stream, version 03.0" and hence accepted.		
Φ_{default} Default value for the model correction factor to account for model uncertainties	For project or leakage emissions: Φ _{default} = 1 <table><tr><td>Application B: (Used to calculate F_{CH4,Pj,y} in line with ACM000122)</td><td>0.75</td></tr></table>		Application B: (Used to calculate F _{CH4,Pj,y} in line with ACM000122)	0.75	The value applied is as per the tool "Emissions from solid disposal sites, version 08.0" and hence accepted.
Application B: (Used to calculate F _{CH4,Pj,y} in line with ACM000122)	0.75				
OX Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste)	0.1		The value is based on extensive review of published literature on this subject, including the IPCC 2006 Guidelines for National Greenhouse Gas Inventories and hence accepted.		
DOC_{f,default} Default value for the fraction of degradable organic carbon (DOC) in MSW that can decompose in the SWDS	0.5		The value is based on extensive review of published literature on this subject, including the IPCC 2006 Guidelines for National Greenhouse Gas Inventories and hence accepted.		
MCF_{default} Methane correction factor	0.8		This value is based on tool 04: Emissions from solid waste disposal sites, version 08.0 for unmanaged solid waste disposal sites – deep. This comprises all SWDS not meeting the criteria of managed SWDS and which have depths of greater than or equal to 5 meters. The value was cross checked and confirmed		
DOC_j Fraction of degradable organic carbon (by weight) in waste type j	Waste type j	DOC _j (%wet waste)	The values are based on tool 04: Emissions from solid waste disposal sites, version 08.0. The value was cross checked and confirmed		
	Wood and wood products	43			
	Pulp, paper and cardboard	40			
	Food, food waste, beverages and tobacco	15			
	Non-food organics ¹⁰	20			
k_j Decay rate for the waste type j	Waste type j	Boreal and Temperate	The value is based on accordance with the Tool 04: "Emissions from solid waste disposal sites" Version 08.1. The		

¹⁰ Non-food organics refer to textiles, garden, yard and park wastes. Therefore, a conservative value of 20% has been chosen.

Parameter/ Description	Value applied			MoV
			(MAT < 200C)	value was cross checked and confirmed
			Dry (MAP/PET >1)	
	Slowly degrading	Pulp, paper, cardboard	0.04	
		Wood, wood products and straw	0.02	
	Moderately degrading	Other (non-food) organic putrescible garden and park waste	0.05	
	Rapidly degrading	Food, food waste, sewage sludge, beverages and tobacco	0.06	
D_{CH4}	0.0007168 tCH ₄ /m ³ CH ₄			The value is based on Estimated in accordance with Equation 10 of Tool to determine the mass flow of a greenhouse gas in a gaseous stream, Version 03.0.
RATE_{compliance,AD}	0			The value is based Prime Ministry, Directorate of Legislation Development and Publication Official Website. Fraction is calculated as the number of instances of compliance divided by the number of instances of compliance plus non-compliance.
FC_{i,y}	As per the data from the TEIAS and as mentioned in MR			The data has been taken from TEIAS (Turkish Electricity Transmission Company), According to "Turkish Statistics Law and Official Statistics Program" TEIAS, the Turkish Electricity Transmission Company is the official source for the related data.
NCV_{i,y}	As per the data from the TEIAS and as mentioned in MR			The data has been taken from TEIAS (Turkish Electricity Transmission Company), According to "Turkish Statistics Law and Official Statistics Program" TEIAS, the Turkish Electricity Transmission Company

Parameter/ Description	Value applied		MoV
			is the official source for the related data.
EF_{CO2,i,y}	EF (tons/GJ)		This value is based on IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Volume 2 (Energy) of the 2006 IPCC Guidelines for National Greenhouse Gas Inventory.
	Natural Gas	0.0540	
	Lignite	0.0909	
	Coal	0.0946	
	Fuel Oil	0.0726	
η_{m,y}		Average conversion efficiency η_{m,y}	The value is based on Tool to calculate the emission factor for an electricity system" Version 07.0.0.
	Natural Gas	IPCC default value of 60% for combined cycle	
	Lignite	IPCC default value of 45% for Supercritical IPCC default value of 41.4% for PFBS	
	Coal	IPCC default value of 45% for Supercritical IPCC default value of 41.4% for PFBS	
	Fuel Oil	IPCC default value of 46% for combined cycle	
EG_{m,y}	As per the data from the TEIAS and as mentioned in MR		The value is based on Net electricity generated by power plant/unit m as per TEIAS and according to "Turkish Statistics Law and Official Statistics Program" TEIAS, the Turkish Electricity Transmission Company is the official source for the related data.
F	0.5 (Fraction of methane in the SWDS gas (volume fraction))		The value is based on IPCC 2006 Guidelines for National Greenhouse Gas Inventories
η_{flare,m}	0% (Default emission Option A as proposed under Tool 06: Project Emission from Flaring Version 04.0)		The project participant opts to exclude the flare system from the project boundary and will not claim any emission reductions from the flaring activities (if any) within the crediting period, since the flare system is observed/envisaged to work none or for insignificant durations throughout the operational lifetime.
EF_{grid,OM,y} Operating Margin CO2 emission factor in year y	0.7424 tCO ₂ e/MWh		The value is based on the Ministry of Energy and Natural Sources published values for the Operating, Build and Combined Margin Emission Factors for Turkish National Grid. The Ministry has calculated the

Parameter/ Description	Value applied	MoV
		emission factor by using the "Tool to calculate the emission factor for an electricity system, version 07.0". Since it was updated in 09/08/2022 by the Ministry, these factors have been used for emission reduction calculation and found correct.
EF _{grid, BM, y} Build Margin CO2 emission factor in year y	0.3680 tCO ₂ e/MWh	The value is based on the Ministry of Energy and Natural Sources published values for the Build margin, Build and Combined Margin Emission Factors for Turkish National Grid. The Ministry has calculated the emission factor by using the "Tool to calculate the emission factor for an electricity system, version 07.0". Since it was updated in 09/08/2022 by the Ministry, these factors have been used for emission reduction calculation and found correct.
SDG 13: Climate Action EF _{grid, CM, y} Combined Margin CO ₂ emission factor in year y	0.4616 tCO ₂ /MWh	Calculated as the weighted average of the operating margin (0.75) & build margin (0.25) values, sourced from Türkiye National Network Grid Emission Factor Data Sheet of Ministry of Energy and Natural Resources.

The value mentioned in the Monitoring Report^{/1/} and Emission Reduction Spreadsheet^{/2/} are consistent with the registered PDD. The applied value is correct and justified.

The value for EF_{grid, CM, y} was calculated by Ministry of Energy and Natural Resources in from the accordance with The Clean Development Mechanism method of the Intergovernmental Panel on Climate Change (IPCC) published by Türkiye National Network Grid Emission Factor Data Sheet of Ministry of Energy and Natural Resources. The default value as mentioned in the registered PDD and MR are same. The value of combined margin in Türkiye is being given by Türkiye National Network Grid Emission Factor Data Sheet of Ministry of Energy and Natural Resources and thus assessment team concludes that the value is correct and appropriate. The default value in turn is used for baseline calculation as per the formula given in the registered PDD for the current monitoring period. Assessment team checked the values, source of data, choice of data, purpose of the data mentioned in the MR from the registered PDD and confirms that the similar approach was considered for the current monitoring period also. The relevant Emission factor values used for emission reduction calculation are as below. Also, as GS4GG "Principles and Requirements" version 2.1 the ex-ante fixed parameters are now connected to relevant SDG indicator which is acceptable to the assessment team.

b. Data and parameters monitored

As per the registered monitoring plan and requirement of the registered methodology following parameters needs to be monitored:

Relevant SDG indicators = 7 Affordable and Clean Energy

1. **EG_{PJ,y}** = Amount of electricity generated using LFG by the project activity in year y.
Assessment team verified that; during present verification period project activity has 8,709 MWh amount of electricity generated by project activity to grid.

The parameter EG_{PJ,y} is calculated based on The Net electricity generated by the project activity. The monitoring team collects monthly measuring protocols for power delivered from the grid. provided by EPIAS. This is because electricity generation is recorded by EPIAS based on the meters installed at the pooling substation as well as a single monthly invoice. The project proponent submits charges to TEIAS based on the monthly readings from the common meters, which are collected by EPIAS. On the other hand, the energy readings for the present monitoring period begin on 03/10/2022 PP has applied apportioning for the same, and terminate on 31/07/2023, which are both in the middle portion of the monthly billing cycle. The daily generation readings for the number of days in these first month of monitoring period (November 2022) that were obtained from the common meters at the pooling sub-station have therefore been taken into consideration by the project proponent. Following measurement by the controller meters, the power is supplied to the pooling substation, where common meters are used to measure it.

EG_{EC,y} : Amount of electricity consumed by the project activity in year y.

Assessment team verified that; during present verification period 17.5942 MWh amount of electricity consumed by the landfill plant. Same has been verified with the TEIAS monthly generation data and further crosscheck with EPIAS data.

The electricity consumption is measured from electricity meters continuously in line with the registered monitoring plan. The monitoring team collects monthly measuring protocols for power delivered from the grid. The monitoring system works with continuous measurement devices. It is programmed to automatically save half-hourly values. The data are stored automatically at the server. These records provide the data for the monthly invoicing to TEIAS. Generation is recorded via remote reading system. The quantity of electricity supplied by the project plant/unit to the grid (ISVM) and the quantity of electricity delivered to the project plant/unit from the grid (UECM) are measured. Net generation is calculated via subtracting energy delivered by the project activity to the grid for internal consumption from electricity fed to the grid. The fact that two meters are installed in a redundant manner keeps the uncertainty level of the only parameter for baseline calculation low. High data quality of this parameter is not only in the interest of the emission reduction monitoring, but paramount for the business relation between the plant operator and the electricity buyers. Measured hourly and readings monthly. Monthly settlement notifications of EPIAS Record consist hourly electricity production and withdrawn from the grid. The same is thus acceptable to the assessment team and thus emission reduction calculation is correct.

Calibration of all the meters is undertaken once in 10 years as per Turkiye National Network Grid Emission Factor Guideline. The meters are of accuracy class 0.5s. The QA/QC procedure is as per the requirement of the registered PDD^{/3/} and onsite practice. The same is thus acceptable to the assessment team and thus emission reduction calculation is correct.

TDL_{j,y} : Average technical transmission and distribution losses for providing electricity for source j, in year y.

Assessment team verified that; during present verification period project activity noticed 11% of average transmission loss. Each month, the grid company computed the TDL factor, which it then used to generate the monthly reports. Assessment team cross-checked with the grid company and reviewed official publications to verify the availability of updated TDL values. While the PP applied the 2021 IEA/World Bank figure (11.89%) during monitoring, our assessment identified more recent and reliable host country data — TEDAŞ: Türkiye Electricity Distribution Report 2023 (page 20) — which reports a TDL of 11%.

Operation of the energy plant: Assessment team verified that; during present verification period for 2022 is 4,669 h and for period 2023 it is 4,651 h number of hours is monitored with a counting device in each power generation unit by project participant. Assessment team further added that, counting devices of the engines are counting the operational hours continuously as the operational hours are also used for maintenance reasons. The operational hours of the engines are recorded manual by the monitoring system at least monthly.

2. Relevant SDG indicator SDG 8.5.1: Number of employment generation

Number of people employed directly due to the project activity.

The parameter is taken as the total number of employments generated during the current monitoring period for the employees. The assessment team found that the Total 10 no. of people were employed during the current monitoring period.

SDG indicators = 8.6.1 Quality of Employment

Quality of Employment: Training of Staff

The parameter is taken as the Plant records or the training records for all the employees/Letter from O&M contractor for employment generation/ DOE interview with employees, local stakeholders etc. Assessment team verified that, during present verification period 02 trainings provided by the project developer to the staff. The same is thus acceptable to the assessment team.

3. Relevant SDG Indicator 13:

1. $BE_{CH_4,SWDS,y}$ = Amount of methane in the LFG that is generated from the SWDS in the baseline scenario in year y.

This parameter is described as Amount of methane in the LFG that is generated from the SWDS in the baseline scenario in year y. The parameter $BE_{CH_4,SWDS,y}$ is determined using the methodological tool "Emissions from solid waste disposal sites" Version 08.0.

The amount of methane in the Landfill Gas (LFG) generated from the Solid Waste Disposal Site (SWDS) in the baseline scenario for year y is determined by estimating the total quantity of organic waste decomposing under anaerobic conditions. This calculation considers factors such as the degradable organic carbon (DOC) content, decay rate, and the fraction of methane in the LFG. Additionally, adjustments are made for methane oxidation and capture efficiency, ensuring an accurate assessment of emissions that would have occurred in the absence of any mitigation measures. Same is demonstrated in Emission reduction sheet and total achieved value of baseline emission for the current monitoring period is 46,760 tCO₂e. The same is thus acceptable to the assessment team.

Period	BE _y (tCO ₂ e)
03/10/2022 – 31/12/2022	21,438
01/01/2023 – 31/07/2023	21,322
Total	42,760

2. $Op_{j,h}$ = Operation of the equipment that consumes the LFG

This parameter monitors the operation of the equipment that consume the LFG, value is taken for 2022 is **4,669** h and for 2023 it is **4,651** h.

if Products generated (such as electricity generation and 0 if no product generated in hour, counting devices of the engines are counting the operational hours continuously as the operational hours are also used for maintenance reasons. The operational hours of the engines are recorded manual by the monitoring system at least monthly. The operation of the energy plant is measured for each power generation unit by a counting device. Every power generation unit has its own counting device totalizing the number of hours. The values used for calculation of baseline emission have been crosschecked with Monthly Reading Form.

3. Management of SWDS: Management of SWDS

This parameter monitors the One of the following sources could be used: - Original design of the landfill -Technical specifications for the management of the SWDS -Local or national regulations. Original design of the landfill, technical specifications for the management of the SWDS and local or national regulations will be used as source.

4. $V_{t,db,EI}$ = Volumetric flow of the gaseous stream in time interval t on a dry basis.

This parameter is used to measure the, The Volumetric flow of the gaseous stream, which is measured continuously through a mass flow meter. Assessment team further added that; for present verification period for dry gas 4,269,394 m³ dry gas/h amount of gas flow, same has been monitored with flow meter, pressure meter, temperature meter.

Period	Value (Nm ³)
03/10/2022 – 31/12/2022	2,142,567
01/01/2023 – 31/07/2023	2,126,827
Total	4,269,394

Calibration details of the flow meter, pressure meter, temperature meter find consistent with calibration certificate and calibration details have been provided in appendix 2 of the verification report, Continuous measuring devices are used by the monitoring system. Half-hourly numbers are automatically saved according to its programming. The information is automatically saved on the server.

5. $V_{CH_4,t,db,LFG}$ = Volumetric fraction of CH₄ in a time interval t on a dry basis

This parameter is used to measure the volumetric fraction of the CH₄, during present verification period the value is applied as

Period	Value (%)
03/10/2022 – 31/12/2022	55.47%
01/01/2023 – 31/07/2023	55.52 %

$V_{CH_4,t,db,LFG}$ will be measured in normal conditions. The gas analyzer is subject to a regular maintenance and testing regime to ensure accuracy. Records of calibration and maintenance will be archived

6. $T_{t,LFG}$: Temperature of the gaseous stream in time interval t.

This parameter is used to monitor the temperature of the gaseous stream, during present verification period temperature measure is Below 60°C. The monitoring system works with continuous measurement devices temperature meter. It is programmed to automatically save half-hourly values. The data are stored automatically at the server. The temperature meters are subject to a regular maintenance and testing regime to ensure accuracy. Records of calibration and maintenance will be archived. Maintenance and calibration of equipment is carried out according to recognised procedures. Details of schedule calibration of temperature meter is provided in appendix 2 of the verification report.

7. $T_{EG,m}$ = Temperature in the exhaust gas of the enclosed flare in the minute m.

This parameter is used to monitored the, temperature of the gaseous stream, during present verification period temperature measure is above 500°C. The value is estimated for the purpose of ex-ante emission reduction calculation. Measurement of a temperature above 500 °C in the exhaust gas stream in the flare indicates that the flare is operating in a reliable way. (Continuously measurement by thermocouple).

8. f_y = Fraction of methane captured at the SWDS and flared, combusted or used in another manner that prevents the emissions of methane to the atmosphere in year y

This parameter is used to monitored the, Written information from the operator of the solid waste disposal site and/or site visits at the solid waste site. The value applied for this monitoring period is 0.

9. PE_{flare} = Project emissions from flaring the residual gas stream in year y

This parameter is used to monitor the project emissions from flaring the residual gas stream in year y, Value applied for the present verification is 0. In accordance with the Project Emissions from flaring” – Version 04.0, only $v_{CH_4,RG,h}$ (Volumetric fraction of methane in the residual gas on dry basis which is the same parameter as w_{CH_4}) and $F_{CH_4,RG,m}$ (Mass flow of methane in the residual gas in the minute m) is monitored since a default value for flare efficiency is used and no separate monitoring of temperature is necessary when using flow meters that automatically measure temperature and pressure, expressing LFG volumes in normalized cubic meters.

10. $F_{CH_4,RG,m}$ = Mass flow of methane in the residual gas in the minute m.

This parameter is used to monitor the value applied for present verification is 0 kg. Measurement of the total amount of gas sent to flare will be continuously performed by using flow meters and all data will be archived electronically. $F_{CH_4,RG,m}$ will be calculated with “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” Version 3.0.

11. $SPEC_{flare}$ = Manufacturer’s flare specifications for temperature, flow rate and maintenance schedule.

This parameter is used to monitored the temperature for flare specification, for present verification the value applied is between 800 °C - 1200°C. Applicable in case of enclosed flares. The maintenance schedule is not required since Option A i.e. (Minimum and maximum inlet flow rate, if necessary, converted to flow rate at reference conditions or heat flux (Gas extraction capacity is 6,000 m³/h)) is selected to determine flare efficiency of an enclosed flare.

c. Implementation of sampling plan

PP did not apply sampling plan to determine data and parameters monitored during this monitoring period. The verification team has checked all the documents such as EPIAS^{/20/} issued by Turkish Electricity Transmission Corporation /Invoices etc. and hence sampling plan was not required. The verification team hereby confirms that, it has checked all the documents.

d. Compliance with the calibration frequency requirements for measuring instruments

According to the Article 2 of the Communiqué of Meters in Electricity Sector¹¹: 'The meters to be used in the electricity market shall be compliant with the standards of Turkish Standards Institute or IEC and have obtained "Type and System Approval" certificate from the Ministry of Trade and Industry.' Therefore, Ministry of Trade and Industry (Ministry) is responsible from control and calibration of the meters. Also, according to Article 11 of this Communiqué, meters shall be in class of 0.2s, which means error interval for measuring is in $\pm 0.2\%$ range which is well acceptable according to rules.

Paragraph (b) of the Article 9 of the "Regulation of Metering and Testing of Metering Systems¹²" (Regulation) of Ministry states that: "b) Periodic tests of meters of electricity, water, coal gas, natural gas and current and voltage transformers are done every 10 years." Therefore, periodic calibration of the meters will be done every 10 years. Also, according to Article 67 (page 20) of this regulation, the calibration shall be done in calibration stations which have been tested and approved by Ministry of Trade and Industry. Article 10 d) of Communiqué requires the meters shall be three phase four wire and Article 64 of Regulation clearly states how calibration shall be performed for this kind of meters. Assessment team checked the same and found that the calibration is appropriate and correct as traceability is ensured. The meters were calibrated as per the norms of 'Regulation of Metering and Testing of Metering System' (Regulation) of Ministry states and the meters are within the permissible error limit.

3.5 SDG Outcomes Monitoring

In the Registered PDD^{/3/} indicators are chosen for the monitoring of sustainable monitoring:

Meth/tool	Relevant indicator	SDG	GS PDD	MR	Compliance
Quantity of net electricity supplied to the grid	SDG 7.2.1: By 2008, increase substantially the share of renewable energy in the global energy mix		Quantity of net electricity generation supplied by the project plant/unit to the grid in year y	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y	Yes
• Number of employment generation and Better Salary	SDG 8.5.1: Number of people employed directly due to the project activity		• Number of employment generation	• Number of employment generation	Yes

¹¹ <https://www.epdk.gov.tr/Detay/DownloadDocument?id=+6B2PMv4N4A=>

¹² [Mevzuat Bilgi Sistemi](#)

Meth/tool	Relevant indicator	SDG	GS PDD	MR	Compliance
• Quality of Employment	SDG 8.6.1: Proportion of youth (aged 15–24 years) not in education, employment or training		• Quality of Employment	• Quality of Employment	
Take urgent action to combat climate change and its impacts	SDG 13.2.1: Take urgent action to combat climate change and its impacts		Emission reductions achieved per year	Emission reductions achieved per year	Yes

The verification of the parameters required by the monitoring plan is provided as follows:

Relevant SDG Indicator	SDG 7.2.1: Affordable and Clean Energy							
Data/parameter:	EG _{PJ,y}							
Unit	MWh							
Description	Amount of electricity generated using LFG by the project activity in year y							
Source of data checked by the assessment team	Monthly electricity meter readings performed as remote reading.							
Value(s) of monitored parameter	8,709 MWh <table><tr><th>Year (Vintage date)</th><th>EG_{PJ,y}</th></tr><tr><td>03/10/2022 – 31/12/2022</td><td>4,179 MWh</td></tr><tr><td>01/01/2023 to 31/07/2023</td><td>4,529 MWh</td></tr></table>		Year (Vintage date)	EG _{PJ,y}	03/10/2022 – 31/12/2022	4,179 MWh	01/01/2023 to 31/07/2023	4,529 MWh
Year (Vintage date)	EG _{PJ,y}							
03/10/2022 – 31/12/2022	4,179 MWh							
01/01/2023 to 31/07/2023	4,529 MWh							
Means of verification:	The electricity generation is measured from electricity meters continuously in line with the registered monitoring plan. The monitoring team collects monthly measuring protocols for power delivered from the grid. The project activity uses meters with an accuracy class of 0.2s to measure the amount of power exported or provided. There are differences between project activity import and export. Assessment team checked the calibration records of the energy meter and found it consistent with calibration certificate and details has been found consistent with calibration certificate. EPIAS records will be taken in consideration while calculating net electricity generation by the plant. ISVM (Electricity fed to the grid) and UECM (Electricity consumed from the grid) data given in the EPIAS records are used for emission reduction calculations. Meters at the site will be used for crosscheck. The invoice is raised on monthly scheduled power. The Total actual data is net that is injected in the grid, therefore for ER calculations, the actual values have been considered. Calibration of all the meters will be undertaken once in 10 years as per Türkiye National Network Grid Emission guidelines. The meters will be of accuracy class 0.2s. calibration records checked with the calibration certificate issued by Landis + Gyr and found correct.							
Cross check mechanism	The values are cross-checked with the on-site meter records. Generation data is recorded by two metering devices continuously. These records provide the data for the monthly invoicing to TEIAS. The quantity of electricity supplied by the project plant/unit to the grid (ISVM) and the quantity of electricity delivered to the project plant/unit from the grid (UECM) are measured. Net generation is calculated via subtracting energy							

	delivered by the project activity to the grid for internal consumption from electricity fed to the grid.
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Relevant SDG Indicator	SDG 7.2.1: Affordable and Clean Energy																
Data/parameter:	EGEC, y																
Unit	MWh/year																
Description	Amount of electricity consumed by the project activity in year y																
Source of data checked by the assessment team	Monthly electricity meter readings performed as remote reading.																
Value(s) of monitored parameter	17.5942 MWh <table border="1"> <thead> <tr> <th>Year (Vintage date)</th><th></th><th>EGEC, y</th></tr> </thead> <tbody> <tr> <td>03/10/2022</td><td>to</td><td>1.3969 MWh</td></tr> <tr> <td>31/12/2022</td><td></td><td></td></tr> <tr> <td>01/01/2023</td><td>to</td><td>16.1973 MWh</td></tr> <tr> <td>31/07/2023</td><td></td><td></td></tr> </tbody> </table>		Year (Vintage date)		EGEC, y	03/10/2022	to	1.3969 MWh	31/12/2022			01/01/2023	to	16.1973 MWh	31/07/2023		
Year (Vintage date)		EGEC, y															
03/10/2022	to	1.3969 MWh															
31/12/2022																	
01/01/2023	to	16.1973 MWh															
31/07/2023																	
Means of verification:	The electricity consumption is measured from electricity meters continuously in line with the registered monitoring plan. The project activity uses meters with an accuracy class of 0.2s to measure the amount of power exported or provided. There are differences between project activity import and export. Assessment team checked the calibration records of the energy meter and details has been found consistent with calibration certificate. Details are provided in appendix 2 of the verification report. EPIAS records will be taken in consideration while calculating net electricity generation by the plant. ISVM (Electricity fed to the grid) and UECM (Electricity consumed from the grid) data given in the EPIAS records are used for emission reduction calculations. Meters at the site will be used for crosscheck. The invoice is raised on monthly scheduled power. The Total actual data is net that is injected in the grid, therefore for ER calculations, the actual values have been considered. Calibration of all the meters will be undertaken once in 10 years as per Türkiye National Network Grid Emission guidelines. The meters will be of accuracy class 0.2s. calibration records checked with the calibration certificate issued by Landis + Gyr and found correct.																
Cross check mechanism	The values are cross-checked with the on-site meter records. Generation data is recorded by two metering devices continuously. These records provide the data for the monthly invoicing to TEIAS. The quantity of electricity supplied by the project plant/unit to the grid (ISVM) and the quantity of electricity delivered to the project plant/unit from the grid (UECM) are measured. Net generation is calculated via subtracting energy delivered by the project activity to the grid for internal consumption from electricity fed to the grid.																

Relevant SDG Indicator	SDG 7.2.1: Affordable and Clean Energy
Data/parameter:	TDL _{j,y}
Unit	%
Description	Average technical transmission and distribution losses for providing electricity for source j, in year y
Source of data checked by the assessment team	Used for ex-ante: IEA Statistics provided by The World

	Bank ¹³
Value(s) of monitored parameter	11%
Means of verification:	It is used for calculation of project emission as per the "Tool to calculate baseline, project and/or leakage emission from electricity consumption". The grid company calculated the TDL factor monthly and use the factor directly for the creation of the monthly reports. Assessment team checked the values used for calculation of project emission are confirmed through the methodological tool. In case of failures of the data recording system, no emission reduction will be claimed for that period. A logbook will be written and will be registered the without data recording. During this monitoring period all the data were available and no failure is recorded.
Cross check mechanism	VVB team confirmed that the values used for project emission calculations are consistent with the methodological requirements. It was further verified that, as per the monitoring plan, in the event of a failure of the data recording system, no emission reductions would be claimed and a logbook entry would be maintained for the respective period. For the current monitoring period, all relevant data were available

Relevant SDG Indicator	SDG 7.2.1: Affordable and Clean Energy
Data/parameter:	Operation of the energy plant
Unit	Hours/year
Description	Operation of the energy plant
Source of data checked by the assessment team	The number of hours is registered by a counting device in each power generation unit.
Value(s) of monitored parameter	2022- 4,669 h 2023- 4,651 h
Means of verification:	This parameter used to measure the operation of the energy plant. The no of hour for operation of the plant is recorded. The operation of the energy plant is measured for each power generation unit by a counting device. Every power generation unit has its own counting device totalizing the amount of hours. The counting devices of the engines are counting the operational hours continuously as the operational hours are also used for maintenance reasons. The operational hours of the engines are recorded manual by the monitoring system at least monthly. The values used for calculation of baseline emission have been crosschecked with Monthly Reading Form. In case of failures of the data recording system, no emission reduction will be claimed for that period. A logbook will be written and will be registered the without data recording. During this monitoring period all the data were available and no failure is recorded.
Cross check mechanism	The data will be cross checked with energy generation.

¹³ <https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?locations=TR>

Relevant SDG Indicator	SDG 13: Op_{j,h}
Data/parameter:	Op_{j,h}
Unit	-
Description	Operation of the equipment that consumes the LFG
Source of data checked by the assessment team	The counting devices of the engines are counting the operational hours continuously as the operational hours are also used for maintenance reasons. The operational hours of the engines are recorded manual by the monitoring system at least monthly.
Value(s) of monitored parameter	2022- 4,669 h 2023- 4,651 h Operation of gas engines monitored by: - Products generated (such as electricity generation) Op_{j,h}=0 when: - No products are generated in hour h Otherwise Op_{j,h}=1 The operation of the energy plant is measured for each power generation unit by a counting device. Every power generation unit has its own counting device totalizing the amount of hours.
Means of verification:	The counting devices of the engines are counting the operational hours continuously as the operational hours are also used for maintenance reasons. The operational hours of the engines are recorded manual by the monitoring system at least monthly.
Cross check mechanism	The VVB team cross-checked the reported operational hours with multiple sources of evidence. This included verification against the plant operation logs maintained by the project participant, review of shift records, and reconciliation with electricity generation records. In addition, the VVB team ensured that the reported data aligned with the monitoring methodology requirements and that no discrepancies were identified during the review.

Relevant SDG Indicator	SDG 13:
Data/parameter:	Management of SWDS
Unit	-
Description	Management of SWDS
Source of data checked by the assessment team	Please refer to the photographs before and after the implementation of the project activity. Original design of the landfill, technical specifications for the management of the SWDS and local or national regulations will be used as source.
Value(s) of monitored parameter	One of the following sources could be used: -Original design of the landfill -Technical specifications for the management of the SWDS -Local or national regulations In order to confirm that any practices to enhance methane generation have been in place prior to the execution of the project activity, the project developer consults the landfill's original design. Any modification to the SWDS's management following the project activity's execution is supported by citation to technical or legal requirements.

Means of verification:	The parameter is monitored annually.
Cross check mechanism	The VVB team verified the information through a combination of documentary review and on-site observations. In addition, the team cross-checked the evidence by comparing pre- and post-implementation photographs with the documented management practices. The VVB also held interviews with site staff to validate that no unreported modifications had been made to the SWDS management system beyond those supported by technical or legal requirements.

Relevant Indicator	SDG	SDG 13:
Data/parameter:	BE _{CH4,SWDS,y}	
Unit	tCO ₂ e/yr.	
Description	Amount of methane in the LFG that is generated from the SWDS in the baseline scenario in year y	
Source of data checked by the assessment team	BE _{CH4,SWDS,y} is determined using the methodological tool “Emissions from solid waste disposal sites” Version 08.1	
Value(s) of monitored parameter	Period	BE _{CH4,SWDS,y} (tCO ₂ e)
	03/10/2022 – 31/12/2022	21,438
	01/01/2023 – 31/07/2023	21,322
	Total	46,760
	The amount of methane generated from disposal of waste at the SWDS is calculated based on a first order decay (FOD) model.	
	As required per ACM0001 “Flaring or use of landfill gas” Version 19.0	
Means of verification:	As required per ACM0001 “Consolidated baseline and monitoring methodology for landfill gas project activities”	
Cross check mechanism	The VVB team verified the baseline methane generation values by recalculating the results using the methodological tool “Emissions from solid waste disposal sites” Version 08.1 and confirmed consistency with the project participant’s calculations. Additionally, the calculated BE _{CH4,SWDS,y} values were reviewed for alignment with the requirements of ACM0001 Version 19.0. No discrepancies were observed between the reported figures and independently derived values.	

Relevant SDG Indicator	SDG 13:
Data/parameter:	PE_{flare}
Unit	tCO ₂ e
Description	Project emissions from flaring the residual gas stream in year y
Source of data checked by the assessment team	Calculated as per "Project Emissions from flaring" – Version 04.0
Value(s) of monitored parameter	0 In accordance with the Project Emissions from flaring" – Version 04.0, only v_{CH₄,RG,h} (Volumetric fraction of methane in the residual gas on dry basis which is the same parameter as w_{CH₄}) and F_{CH₄,RG,m} (Mass flow of methane in the residual gas in the minute m) is monitored since a default value for flare efficiency is used and no separate monitoring of temperature is necessary when using flow meters that automatically measure

	temperature and pressure, expressing LFG volumes in normalized cubic meters.
Means of verification:	Due to the fact that there are only hourly measurements of the flare temperature, it is assumed for conservative reason that the flare efficiency is always = 0%. Therefore, only the flow of methane to flare is calculated for cross check reasons, but no Emission Reduction are taken into account with the assumption that always PE = BE (because efficiency of flare = 0%).
Cross check mechanism	-

Relevant SDG Indicator	SDG 13:
Data/parameter:	F_{CH4,RG,m}
Unit	kg
Description	Mass flow of methane in the residual gas in the minute m
Source of data checked by the assessment team	Flow meter
Value(s) of monitored parameter	0 Assessment team verified that; The monitoring system works with continuous measurement devices. It is programmed to automatically save half-hourly values. The data are stored automatically at the server. Measurement of the total amount of gas sent to flare will be continuously performed by using flow meters and all data will be archived electronically. F _{CH4,RG,m} will be calculated with "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" Version 3.0.
Means of verification:	Assessment team verified that; The flow meters are subject to a regular maintenance and testing regime to ensure accuracy. Records of calibration and maintenance will be archived.
Cross check mechanism	-

Relevant SDG Indicator	SDG 13:
Data/parameter:	SPEC_{flare}
Unit	Temperature - °C Flow rate or heat flux - kg/h or m ³ /h
Description	Manufacturer's flare specifications for temperature, flow rate and maintenance schedule
Source of data checked by the assessment team	Flare manufacturer
Value(s) of monitored parameter	800 °C - 1200°C (a) Minimum and maximum inlet flow rate, if necessary, converted to flow rate at reference conditions or heat flux (Gas extraction capacity is 6,000 m ³ /h); (b) Minimum and maximum operating temperature (Minimum and maximum operating temperatures are 800°C and 1200°C) and (c) Maximum duration in days between maintenance events
Means of verification:	Assessment team verified that; Applicable in case of enclosed flares. The maintenance schedule is not required since Option A is selected to determine flare efficiency of an enclosed flare.
Cross check mechanism	-

Relevant SDG Indicator	SDG 13:
Data/parameter:	T_{EG,m}
Unit	°C
Description	Temperature in the exhaust gas of the enclosed flare in the minute m
Source of data checked by the assessment team	Project participant
Value(s) of monitored parameter	> 500 °C The value is estimated for the purpose of ex-ante emission reduction calculation. No separate monitoring of temperature is necessary when using flow meters that automatically measure temperature and pressure, expressing LFG volumes in normalized cubic meters. The temperature meters are subject to a regular maintenance and testing regime to ensure accuracy. Records of calibration and maintenance will be archived. Calibration and frequency of calibration is according to manufacturer's specifications. Assessment team has checked the calibration certificate of the flow meter and found it correct and error free, thus accepted. Details of the calibration is provided in appendix 2 of the verification report.
Means of verification:	Assessment team verified that; The values used for calculation of baseline emission have been crosschecked with the raw data given in the ER Calculation.
Cross check mechanism	-

Relevant SDG Indicator	SDG 13:
Data/parameter:	f_y
Unit	-
Description	Fraction of methane captured at the SWDS and flared, combusted or used in another manner that prevents the emissions of methane to the atmosphere in year y
Source of data checked by the assessment team	Written information from the operator of the solid waste disposal site and/or site visits at the solid waste site
Value(s) of monitored parameter	0, according to methodology Assessment team verified that; Written information from the operator of the solid waste disposal site and/or site visits at the solid waste site.
Means of verification:	Assessment team verified that; Estimation of baseline and project emission, This value is estimated ex-ante.
Cross check mechanism	-

Relevant SDG Indicator	SDG 8.5.1: Number of Employment Generation
Data/parameter:	Number of employment generation
Unit	Number
Description	Number of people employed directly due to the project activity
Source of data checked by the assessment team	Plant records or the training records for all the employees/SSI Records/Letter from O&M independent for employment generation/VVB interview with employees, local stakeholders etc

Value(s) of monitored parameter	Assessment team checked that for Quantity of employment is given in office work, O&M, Security etc. 10 employees are employed in the current monitoring period. The employment records for the monitoring period are checked by the assessment team and found correct. Breakup is as follows: The PP has provided the training details in "Appendix 1: Training Details" in the monitoring report. The same was verified from the training document submitted to VVB. The PP has provided the 02 training sessions were conducted for 10 employees. The same is found to be correct, hence accepted. Moreover, Assessment team verified through Adana Landfill Waste Management Project – Turkey records of employees and same pay-out has been to both male and female as per their pay scale.
Means of verification:	The total number of persons working in the plant are being calculated based on the daily log available at site. Number of Employees work at the plant are verified through the attendance sheet and HR records available at the project site.
Cross check mechanism	The assessment team cross-checked the reported number of employees through multiple means, including verification of attendance sheets, HR records, payroll slips, and training registers, along with supporting documents such as O&M contractor confirmations and SSI records. Random interviews were conducted with employees from different categories (O&M, office staff, security) to confirm their employment status, training received, and pay equality, while discussions with local stakeholders further validated the employment opportunities created by the project.

Relevant SDG Indicator	SDG 8.6.1: Quality of Employment	
Data/parameter:	Quality of Employment	
Unit	Number	
Description	Training to staff	
Source of data checked by the assessment team	Plant records or training records for all the employees / VVB interview with employees.	
Value(s) of monitored parameter	Assessment team checked for Quality of employment. Employment is given in office work, O&M, Security etc. 10 employees are employed in the current monitoring period.	
	The Project proponent has organised training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures.	
	During Monitoring period, total 02 Trainings were organized (details provided in final monitoring report) includes soft. Training details is provided in monitoring report, Same is verified by assessment team with copies of training attendance sheet. Thus accepted.	
	Period	Value
	03/10/2022 to 31/12/2022	01
	01/01/2023 to 31/07/2023	01
Total	02	
	Employees who have completed the Work with High Voltage training within the specified years and possess valid work permits are listed below:	
	02 trainings conducted during monitoring period.	

Means of verification:	The value for number of employments created is taken from Plant employment records/plant records. Verification team interviewed some employees and Local stakeholders.
Cross check mechanism	The training records for all the employees.

Relevant SDG outcome has been included in ER sheet and have been found correct.

During the onsite interviews with PP, the verification team confirmed that there is a grievance book^{14/} at project site. Every stakeholder has access to the grievance register and can lodge grievance any time. Same if any is resolved as per the standard operating procedures of the company. By checking grievance book^{14/} submitted by PP, it was able to confirm there are no negative comments received from the local people for the present monitoring period. Staff complaints/grievances were addressed as per the company policies. Local people are happy with the implementation of the project activity as it entrusts employment and improve living standard of local people and villagers.

Assessment team also checked the other registry like UNFCCC and VCS and found that project is not registered with both mechanisms.

Applus+ Certification conducted an interview with the project owner and local stakeholders please find the summary of the interview as below:

Sections	Debriefing
Trainings & salaries of the employees	During verification process Mr. Mehmet Gültekin, PP representative team was interviewed. It was noted that regular technical & nontechnical trainings were conducted and the salaries are in line with the industry standard.

In Summary, it is Applus+ Certification's opinion that the monitoring of the project owner regarding to sustainability is in line with requirement of the GS4GG guideline.

Summary of ex-post values of each SDG outcome for the current monitoring period

Item	Baseline estimate	Project estimate	Net benefit
SDG 7: Affordable and Clean Energy	0 MWh	8,709 MWh	8,709 MWh
SDG 8: Decent Work and Economic Growth	0 Trainings 0 Employees	02 Trainings 10 Employees	02 Trainings 10 Employees
SDG 13: Climate Action	46,775 tCO ₂ e	15 tCO ₂ e	46,760 tCO ₂ e

Comparison of actual value of outcomes with estimates in approved GS PDD

Item	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period
SDG 7: Affordable and Clean Energy	115,500 MWh (annual) 95,564.38 MWh for current M.P.	8,709 MWh

SDG 8: Decent Work and Economic Growth	01 Training provided to O&M Staff 05 employments generation	2 Trainings provided to O&M Staff 10 employments generation
SDG 13: Climate Action	267,889 tCO ₂ e/Year emission reduction(annual) 229,097 tCO ₂ e for current M.P.	46,760 tCO ₂ e emission reduction

3.6 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the Monitoring Report^{/1/} and corresponding ER calculation spread-sheets^{/2/} and are consistent with the applied methodology ACM0001 Version 19.0^{/4/} and the monitoring plan contained in the registered PDD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the Monitoring Report Version and corresponding ER calculation spread-sheets^{/2/}. The verification process for the same has been clearly described in above section of the report. See below for the detailed data:

Baseline Emissions for the amount of electricity supplied by project activity, BE_y is calculated as:

The baseline emission is estimated using equation below:

$$BE_y = BE_{CH_4,y} + BE_{EC,y} + BE_{HG,y} + BE_{NG,y}$$

Where:

BE _y	Baseline emissions in year y (tCO ₂ e/yr.)
BE _{CH₄,y} (tCO ₂ e/yr.)	Baseline emissions of methane from SWDS in year y
BE _{EC,y} in year y (tCO ₂ e/yr)	Baseline emissions associated with electricity generation
BE _{HG,y} -	Baseline emissions associated with heat generation in year y (t CO ₂ /yr)
BE _{NG,y} -	Baseline emissions associated with natural gas use in year y (t CO ₂ /yr)

Since there is no heat generations or natural gas usage in the baseline scenario, only baseline emissions from methane emissions from SWDS (A) and electricity generation (B) will be taken into account. The baseline emissions are calculated as follows:

$$BE_y = BE_{CH_4,y} + BE_{EC,y}$$

The results of baseline emissions calculations are summarized in the below table.

Period	BE _{CH₄, y} (tCO ₂ e)	BE _{EC,y} (tCO ₂ e)	BE _y (tCO ₂ e)
03/10/2022 - 31/12/2022	21,438	1,928	23,366
01/01/2023 – 31/07/2023	21,322	2,087	23,409

Step (A): Baseline emissions of methane from the SWDS (BE_{CH₄,y})

Baseline emissions of methane from the SWDS are determined as follows, based on the amount of methane that is captured under the project activity and the amount that would be captured and destroyed in the baseline. In addition, the effect of methane oxidation that is present in the baseline and absent in the project is taken into account.

$$BE_{CH_4} = ((1 - OX_{top_layer}) \times F_{CH_4,PJ,y} - F_{CH_4,BL,y}) \times GWP_{CH_4} \quad \text{Equation 2 in ACM0001 V19}$$

Where:

$BE_{CH_4,y}$ Baseline emissions of methane from the SWDS in year y
 (t CO₂e/yr.)

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

$F_{CH_4,PJ,y}$ Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH₄/yr.)

$F_{CH_4,BL,y}$ Amount of methane in the LFG that would be flared in the baseline in year y (tCH₄/yr.)

GWP_{CH_4} Global warming potential of CH₄ (tCO₂e/tCH₄)

Step A.1: Ex-post determination of $F_{CH_4,PJ,y}$

During the crediting period $F_{CH_4,PJ,y}$ is determined as the sum of quantities of methane flared and used in power plant(s) as follows:

$$F_{CH_4,PJ,y} = F_{CH_4,flared,y} + F_{CH_4,EL,y} + F_{CH_4,HG,y} + F_{CH_4,NG,y} \quad \text{Equation 3 in ACM0001 V19}$$

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 (tCH₄/yr)

$F_{CH_4,flared,y}$ Amount of methane in the LFG which is destroyed by flaring in year y (tCH₄/yr)

$F_{CH_4,EL,y}$ Amount of methane in the LFG which is used for electricity generation in year y (tCH₄/yr)

$F_{CH_4,HG,y}$ Amount of methane in the LFG which is used for heat generation in year y (t CH₄/yr)

$F_{CH_4,NG,y}$ 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 CH₄/yr)

Since there is no heat generations or natural gas usage therefore *Ex-post determination of $F_{CH_4,PJ,y}$* will be limited to methane emissions from SWDS (A) and electricity generation (B) will be taken into account.

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

$F_{CH_4,EL,y}$ is determined using the “Tool to determine the mass flow of a greenhouse gas” in a gaseous stream” and monitoring the working hours of the power plant, so that no emission reduction are 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 ($Op_{j,h,y}$).

$F_{CH_4,PJ,y}$ is determined using the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” Version 03.0.0.

The tool provides procedures to determine the following parameter:

Parameter	SI Unit	Description
$F_{i,t}$	kg/h	Mass flow of greenhouse gas i (CO_2 , CH_4 , N_2O , SF_6 or a PFC) in the gaseous stream in time interval t.

The mass flow of CH_4 in LFG is determined through measurement of the flow and volumetric fraction of the gaseous stream (LFG). The “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” version 03.0.0 provides 6 different ways to make these measurements and the corresponding calculation option for $F_{i,t}$.

Table 1: Measurement options for $F_{i,t}$

Option	Flow of Gaseous Stream	Volumetric Fraction
A	Volume flow-dry basis	Dry or wet basis
B	Volume flow-wet basis	Dry basis
C	Volume flow-wet basis	Wet basis
D	Mass flow-dry basis	Dry or wet basis
E	Mass flow-wet basis	Dry basis
F	Mass flow-wet basis	Wet basis

Option A is applied in the project activity. Since option B and E has not been selected as an option, the absolute humidity of the gaseous stream will not be determined.

Option A:

According to the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” version 03.0.0, flow measurement on a dry measurement is not doable for a wet gaseous stream. Therefore, it will be demonstrated that the temperature of the gaseous stream (T_t) is less than 60°C (333.15 K) at the flow measurement point.

The mass flow of CH_4 ($F_{CH_4,t}$) is determined as follows:

$$F_{CH_4,t} = V_{t,db} * v_{CH_4,t,db} * \rho_{CH_4,t} \quad \text{Equation 5 in TOOL08}$$

With

$$\rho_{CH_4,t} = P_t * MM_{CH_4} / R_u * T_t \quad \text{Equation 6 in TOOL08}$$

Where:

$F_{CH_4,t}$	Mass flow of CH ₄ in the gaseous stream in time interval t (kg gas/h)
$V_{t,db}$	Volumetric flow of the gaseous stream in time interval t on a dry basis (m ³ dry gas/h)
$v_{CH_4,t,db}$	Volumetric fraction of CH ₄ in the gaseous stream in a time interval t on a dry basis (m ³ gas CH ₄ /m ³ dry gas)
$\rho_{CH_4,t}$	Density of CH ₄ in the gaseous stream in time interval t (kg gas CH ₄ / m ³ gas CH ₄)
P_t	Absolute pressure of the gaseous stream in time interval t (Pa)
MM_{CH_4}	Molecular Mass of CH ₄ (kg/kmol)
R_u	Universal ideal gases content (Pa.m ³ /kmol.K)
T_t	Temperature of gaseous stream in time interval t (K)

The amount of methane destroyed by flaring ($F_{CH_4, flared,y}$)

The project participant opts to exclude the flare system from the baseline calculations and will not claim any emission reductions from the flaring activities (if any) within the crediting period, since the flare system is observed/envisaged to work none or for insignificant durations throughout the operational lifetime.

The exclusion of the emission reductions from flaring activities is conservative since it will result in no change (if there is no flaring activity) or decrease in the total emission reductions (if flaring activity is observed).

In accordance with the above explanation, the "Project emissions from flaring" Version 03, is not applied to the project activity and no emission reductions will be claimed from the flaring activity, therefore the amount of methane destroyed by flaring $F_{CH_4, flared,y}$ is fixed to "0".

Moreover, flare unit is connected between the booster units and gas engines, allowing gas flow to be directed either to the flare unit or to the generation units or engines. The gas amount sent to flare unit is monitored with a flow meter located before the flare unit and the temperature at the flare unit is monitored with the thermocouple (0 - 1.000°C range) located at the flare unit itself.

However, although the flare unit exists at the site (which is obligated by the legislations), no gas has been directed to flare unit within the current monitoring period of the project.

The assessment team verified that upon reviewing flow meter data upstream of the flare unit, which showed zero flow towards the flare, and temperature sensor readings at the flare that indicated no combustion activity. Additionally, operational logs and on-site inspections confirmed that all LFG gas was routed to and utilized in the generation units, with no diversion to the flare during the monitoring period.

Step A.2: Determination of $F_{CH_4,BL,y}$

This step provides a procedure to determine the amount of methane that would have been captured and destroyed (by flaring) in the baseline due to regulatory requirements, or to address safety and odour concerns. ACM0001 "Flaring or Use of Landfill Gas" version 19.0.0 provides 4 cases and corresponding instructions.

Situation at the start of the project activity:	Requirement to destroy methane	Existing LFG capture and destruction system
Case 1: No requirement to destroy methane exists and no existing LFG capture system	No	No
Case 2: Requirement to destroy methane exists and no existing LFG capture system	Yes	No
Case 3: No requirement to destroy methane exists and an LFG capture system exists	No	Yes
Case 4: Requirement to destroy methane exists and LFG capture system exists	Yes	Yes

The situation at the start of the project activity falls under Case 1 since there are no legal requirements in Türkiye to destroy methane and the LFG was not captured prior to the project activity.

Therefore:

$$F_{CH_4, BL, y} = 0$$

The results of $BE_{CH_4, y}$ calculations are summarized in the below table.

Start date	End date	BE_{CH_4-LFG} (tCO _{2e})	BE_{EG} (tCH ₄)	BE (tCO _{2e})
03/10/2022	31/10/2022	11,039	970	12,009
01/11/2022	30/11/2022	6,888	632	7,520
01/12/2022	31/12/2022	3,511	326	3,837
01/01/2023	31/01/2023	3,290	316	3,606
01/02/2023	28/02/2023	2,933	283	3,216
01/03/2023	31/03/2023	3,453	327	3,780
01/04/2023	30/04/2023	3,263	309	3,572
01/05/2023	31/05/2023	2,922	288	3,210
01/06/2023	30/06/2023	2,605	288	2,893
01/07/2023	31/07/2023	2,856	276	3,132
Total for 2022		21,438	1,928	23,366
Total for 2023		21,322	2,087	23,409

Total for the monitoring period	42,760	4,015	46,775
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Step B: Baseline emissions associated with electricity generation ($BE_{EC,y}$)

The baseline emissions associated with electricity generation in year y ($BE_{EC,y}$) is calculated in accordance with the "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" Version 3.0. The electricity source k in the tool corresponds to the sources of electricity generated by the grid, which is identified as the most plausible baseline scenario. $EC_{BL,k,y}$ in the tool is equivalent to the net amount of electricity generated using LFG in year y ($EG_{PJ,y}$).

Generic approach

In the generic approach, baseline emissions from consumption of electricity are calculated based on the quantity of electricity consumed, an emission factor for electricity generation and a factor to account for transmission losses, as follows:

$$BE_{EC,y} = \sum EC_{BL,k,y} * EF_{EL,k,y} * (1 + TDL_{k,y}) \quad \text{Equation 2 in TOOL05 V3}$$

Where:

$BE_{EC,y}$	Baseline emissions from electricity consumption in year y (tCO ₂ e/yr)
$EC_{BL,k,y}$	Net amount of electricity generated using LFG in year y (MWh/yr)
$EF_{EL,k,y}$	Emission factor for electricity generation source k in year y (tCO ₂ e/MWh)
$TDL_{k,y}$	Average technical and transmission and distribution losses for providing electricity to source k in year y
k	the sources of electricity generated by the grid

$TDL_{k,y}$ value is taken as zero since the losses have already been excluded from the generation value.

Start date	End date	$EG_{PJ,y}$ (MWh)	$BE_{EC,y}$ (tCO ₂ e)
03/10/2022	31/12/2022	4,179	1,928
01/01/2023	31/07/2023	4,529	2,087
Total		8,709	4,015

The combined margin emission factor is calculated by using weighted average CM as per TOOL07 Version 07.0 formula below:

$$EF_{grid,BM,y} = EF_{grid,OM,y} * WOM + EF_{grid,BM,y} * WBM \quad \text{Equation 16 in TOOL07 V7}$$

Where:

$EF_{grid,BM,y}$ - Build margin CO₂ emission factor in year y (tCO₂/MWh)

$EF_{grid,OM,y}$ - Operating margin CO₂ emission factor in year y (tCO₂/MWh)

w_{OM} - Weighting of operating margin emissions factor (%)

w_{BM} - Weighting of build margin emissions factor (%)

According to the Tool for power generation project activities other than wind and solar, for the second crediting period;

$w_{OM} = 0.25$ and $w_{BM} = 0.75$

Then:

$EF_{grid,CM,y} = 0.7424 \text{ tCO}_2/\text{MWh} \cdot 0.25 + 0.3680 \text{ tCO}_2/\text{MWh} \cdot 0.75 = 0.4616 \text{ tCO}_2/\text{MWh}$

$EF_{grid,CM,y} = 0.4616 \text{ tCO}_2/\text{MWh}$
--

BE_y = 4,015

Vintage	Baseline emission (tCO _{2e})
03/10/2022 – 31/12/2022	23,366
01/01/2022 – 31/07/2023	23,409
Total	46,775 (Round down values)

Thus, the baseline value of each SDG outcome is summarised as follows;

Item	Baseline value
SDG 7: Affordable and Clean Energy	No Activities in the baseline
SDG 8: Decent Work and Economic Growth	No Activities in the baseline
SDG 13: Climate Action	46,760 tCO _{2e}

Project emissions:

The project is a Land fill power project, no fossil fuel is be consumed according to the methodology ACM0001 Version 19.0 & according to registered PDD

In accordance with ACM0001 "Flaring or Use of Landfill Gas" version 19.0.0, the project emissions are calculated as follows:

$$PE_y = PE_{EC,y} + PE_{FC,y} + PE_{DT,y} + PE_{SP,y}$$

Equation 22 in ACM0001 V19

Where:

PE_y	Project emissions in year y (t CO ₂ /yr)
$PE_{EC, y}$	Emission from consumption of electricity due to the project activity in year y (tCO ₂ e/yr).
$PE_{FC, y}$	Emissions from consumption of fossil fuels due to the project activity, for purpose other than electricity generation, in year y (t CO ₂ /yr)
$PE_{DT, y}$	Emissions from the distribution of compressed/liquefied LFG using trucks, in year y (t CO ₂ /yr)
$PE_{SP, y}$	Emissions from the supply of LFG to consumers through a dedicated pipeline, in year y (t CO ₂ /yr)

Since there is no consumption of fossil fuels due to the project activity, for purposes other than electricity generation, there are no emissions from fossil fuel consumption and therefore $PE_{FC, y}$ is equal to "0" and has not been included in equation. Also, the project activity does not include the distribution of compressed/liquefied LFG using trucks or the supply of LFG to consumers through a dedicated pipeline. Thus, $PE_{FC, y}$ and $PE_{SP, y}$ are zero.

Therefore, $PE_y = PE_{EC, y}$

The project emissions from consumption of electricity by the project activity $PE_{EC, y}$ shall be calculated using the "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation " Version 3.0. When applying the tool, electricity sources j in the tool corresponds to the sources of electricity consumed due to the project activity.

$PE_{EC, y}$ is calculated as follows:

$$PE_{EC, y} = \sum EC_{PJ, y} * EF_{EL, j, y} * (1 + TDL_{j, y}) \quad (\text{Equation 1 in TOOL05 V3})$$

Where:

$PE_{EC, y}$	Project emissions from electricity consumption in year y (tCO ₂ e/year)
$EC_{PJ, y}$	Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/year)
$EF_{EL, j, y}$	Emission factor for electricity generation for source j in year y (tCO ₂ e/MWh)
$TDL_{j, y}$	Average technical transmission and distribution losses for providing electricity to source j in year y

The combined margin emission factor of the applicable electricity system has been determined as emission factor for the electricity system ($EF_{EL,j,y}$), in line with Option A1 of scenario A (Electricity consumption from grid) under the “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation” Version 3.0.

$TDL_{j,y}$ value is taken as zero since the losses have already been excluded from the consumption value.

Project emission value for the monitoring period is $PE_y = 9.01$ tCO₂e as can be seen from the table below.

Start date	End date	$EG_{EC,y}$ (MWh)	PE_y (tCO ₂ e)
03/10/2022	31/12/2022	1.400	0.72
01/01/2023	31/07/2023	16.200	8.30
Total		17.5942	9.01

For the current monitoring period, the emission reductions contributed by the project activity (ER) is calculated as follows:

Assessment team confirms that an independent assessment of the emission reduction calculation approach has been conducted in accordance with ACM0001 Version 19.0, the applicable CDM tools, and the registered PDD. The assessment goes beyond restating the Monitoring Report and evaluates the methodological applicability, correctness of equations, parameter selection, data sources, assumptions, and conservativeness of the calculations.

The assessment team verified that baseline emissions are correctly determined from methane avoidance at the SWDS and electricity generation, with exclusion of heat and natural gas components duly justified and consistent with the project design. The ex-post determination of methane captured and utilized (FCH_4,PJ,y) was independently assessed using the Tool to determine the mass flow of a greenhouse gas in a gaseous stream (Version 03.0.0), including verification of selected measurement option, operating hours, and raw flow and concentration data.

The exclusion of emission reductions from flaring activities is considered conservative and was verified through review of flow meter data, flare temperature records, operational logs, and site inspection, confirming that no gas was routed to the flare during the monitoring period. The baseline scenario was correctly identified as Case 1 under ACM0001, resulting in $FCH_4,BL,y = 0$.

Baseline electricity emissions and project electricity consumption emissions were independently verified using TOOL05 Version 3.0, with grid emission factors derived in accordance with TOOL07 Version 7.0. Cross-checks against primary records confirmed consistency between raw data, calculation spreadsheets, and the Monitoring Report.

Based on this assessment, the VVB team confirms that the emission reduction calculation approach is correctly applied, conservative, and fully consistent with the registered PDD and applicable methodological requirements. The reported emission reductions of 46,760 tCO₂e for the monitoring period are therefore considered accurate and justified.

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions (tCO₂e)

BE_y = Baseline emissions (tCO₂e)

PE_y = Project emissions due to electricity consumption from the grid (tCO₂e)

Leakage Emission:

In accordance with ACM0001 "Flaring or Use of Landfill Gas" version 19.0, no leakage effects are accounted.

Emission reductions:

Thus, the emission reductions are:

$$\begin{aligned} ER_y &= BE_y - PE_y - LE_y \\ &= 46,775 \text{ tCO}_2\text{e} - 11 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} \\ &= \mathbf{46,760 \text{ tCO}_2\text{e}} \end{aligned}$$

For this monitoring period (03/10/2022 – 31/07/2023) the annual estimation for emission reduction was 229,097 tCO₂e which is for 302 days as per the submitted PDD. So, the actual emission reduction for this monitoring period is 46,760 tCO₂e which is less than 79.59% less than estimated value.

The decrease in actual emission reduction is justified.

3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the registered PDD^{3/}. The same practice is followed onsite and it is confirmed by the assessment team during the onsite interviews with PP. The data related to ER calculation as well as data monitoring, collection process etc. have been internally reviewed by the management of the Monitoring team regularly. The responsibility of each function is consistent with the monitoring plan in the registered PDD.

The information flow of each parameter has been verified by the assessment team via interviewing with responsible personnel.

It's verified during the onsite audit interviews with PP & document review, the monitoring procedure as well as the internal quality management and control procedures are stipulated in the PDD. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring is implemented as per the procedure. Also, the training record has been checked by the assessment team and it is confirmed that the monitoring personnel are get sufficient train to perform the monitoring.

All the data and documents, either hard copies or soft copies, is kept for two years after the end of the last crediting period or the last issuance of GS VERs for this Project, whichever occurs later.

4. REFERENCE

LIST OF DOCUMENTS	
S. No.	Document/Evidence/Reference/Web link, Version, Date
1.	Monitoring Report Version 01 dated 02/10/2023 Monitoring Report Version 02 dated 11/06/2024 Monitoring Report Version 03 dated 18/12/2024 Monitoring Report Version 04 dated 19/02/2025 Monitoring Report Version 05 dated 01/08/2025 Monitoring Report Version 06 dated 02/09/2025 Final Monitoring Report Version 08 dated 06/01/2026
2.	ER sheets Version 01 dated 02/10/2023 ER sheets Version 01 dated 11/06/2024 ER Sheets version 03 dated 18/12/2024 ER Sheets version 04 dated 19/02/2025 ER Sheets version 05 dated 01/08/2025
3.	Registered PDD Version: 10.5 dated 14/03/2023 GS DESIGN CERTIFICATION (RENEWAL) report version 03 dated 24/03/2024 GS Design documents
4.	ACM0001 Version 19.0, "Tool to calculate the emission factor for an electricity system Version no 7.0"
5.	CDM validation and verification standard for project activities, Version 03.0 and GS4GG Validation and Verification Standard, version 2.0
6.	GS4GG guideline GS4GG Principles and requirements Version 2.1 GS4GG Activity Requirements: RE Activity Requirements, version 1.4 GHG EMISSIONS REDUCTIONS & SEQUESTRATION PRODUCT REQUIREMENTS, Version 3.1 SAFEGUARDING PRINCIPLES & REQUIREMENTS, VERSION 2.1 SITE VISIT AND REMOTE AUDIT REQUIREMENTS AND PROCEDURES, VERSION 2.0
7.	Training records of the employees (both skilled/non-skilled)
8.	Employment records (Attendance register, Salary slips)
9.	Calibration certificates
10.	Commissioning certificates
11.	Technical manual from the Manufacturer
12.	Declaration of No double counting dated 03/01/2024
13.	Local Stakeholder Programs
14.	Grievance register placed at plant site
15.	HSE procedures

LIST OF DOCUMENTS	
S. No.	Document/Evidence/Reference/Web link, Version, Date
16.	Power purchase agreement
17.	Asset transfer agreement
18.	Breakdown or shut down
19.	TEİAŞ data for complete monitoring period
20.	EPIAS data for complete monitoring period

5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been engaged by Climate Balanced İklim Enerji Ticaret ve Eğitim Ltd. Şti. to perform the 1st verification of 2nd crediting period of the “Adana Landfill Waste Management Project Turkey” (GS Ref. No. GS 715).

The management of ITC Invest Trading & Consulting A.G. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the registered PDD version 10.5 and the applied methodology ACM0001 Version 19.0^{4/}.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and Gold Standard. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. A reasonable level of assurance has been achieved during this verification. The verification can confirm that:

- the project is operated as planned and described in the project design document and PDD approved by the EB and GS;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the PDD and the monitoring plan approved by the EB and GS;
- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

In our opinion, the GHG emission reductions for “Adana Landfill Waste Management Project Turkey” for the monitoring period 03/10/2022 to 31/07/2023 (Both days included) as reported in Monitoring Report, prepared on the basis of the project’s Monitoring Plan are fairly Stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: 03/10/2022 to 31/07/2023 (Both days included)

Verified emissions in the above reporting period:

Leakage emissions	0 tCO ₂ e equivalents
Project emissions	9.01 tCO ₂ e equivalents
Baseline emissions	46,775 tCO ₂ e equivalents
Emission reductions	46,760 tCO ₂ e equivalents

Vintage wise breakup of verified emission reduction is given below:

Year		Baseline emission (tCO ₂ e)	Project Emission (tCO ₂ e)	Emission Reduction (tCO ₂ e) Or GS VERs
03/10/2022	to	23,366	0.72	23,363
31/12/2022				
01/01/2022	to	23,409	8.30	23,397
31/07/2023				
Total		46,775	9.01	46,760

Date: 07/01/2026

Lead Auditor & Mr. Ishan Shrivastava

Tech. Expert:

Tech. Reviewer: Mr. David Lubanga

Approver (*Applus+ Certification VVB Technical Manager*)

Ms. Karen Elizabeth Vega Nonalaya

ASSESSMENT TEAM	
Lead Auditor: Mr. Ishan Shrivastava	Technical Reviewer: Mr. David Lubanga
Signature: 	Signature: 
Approver: Ms. Karen Elizabeth Vega Nonalaya	
Signature: 	

Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.1
Description of the audit finding	Date: 30/01/2024		
PP requested provide response to the following FARs which are raised during design review: FAR # 1: Verifying VVB shall ensure the deviation request decision by GS dated 17/01/2022 shall be complied "As per the requirements of para 5.1.46 of Principle and Requirements, no issuance can be claimed for a period of delay in design certification renewal".			
Project Participant's response		Date:	23/05/2024
No issuance is claimed for the period of delay in design certification renewal of the project activity.			
Documentation provided as evidence by Project Participant			
Revised Monitoring Report			
Auditor's assessment comment		Date:	09/08/2024
The assessment team verified that PP conformed with the GS deviation request decision dated 17/01/2022, which stated that no issuance would be made for a delay in design certification. It was also determined to be compliant with the "requirements of para 5.1.46 of Principle and Requirements." Consequently, approved. Thus, CL is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.1 (Previous Validation report)
Description of the audit finding	Date: 30/01/2024		
PP requested provide response to the following FARs which are raised during RCP Validation: Ensure that emission reductions from facilities that are part of the "general project" but are not eligible for VERs under Gold Standard regulation are effectively excluded from the emission reduction calculations. This should be reflected in the monitoring of electricity generation.			
Project Participant's response		Date:	23/05/2024
Gasification system has not been implemented under the project activity and is outlined under Section A.3 of the revised GS-PDD. Since the gasification system has not been implemented yet or will be implemented during the crediting period, emission reductions from facilities that could have been a part of the "general project" but are not eligible for VERs under Gold Standard regulation are not considered as a part of the project activity.			
Documentation provided as evidence by Project Participant			
EPIAŞ records			
Auditor's assessment comment		Date:	14/08/2024

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.1 (Previous Validation report)
Assessment team verified that; At the time of project conceptualization, the Project Proponent had planned to install a gasification system and included it as an option in the registered PDD. However, since waste gasification is not eligible under Gold Standard rules, no emission reductions were proposed ex-ante from this component. During the current verification, it was confirmed through site observations, operational records, and stakeholder confirmation that the gasification system has not been implemented within the project boundary and there are no plans to install it during the current or future crediting periods. The monitoring of electricity generation includes only eligible components under the Gold Standard regulation, ensuring no ineligible emission reductions are claimed. Therefore, the FAR can be closed. The project activity is the sole origin of the power generating figures utilized in the computations. Same has been verified with the EPIAS document and found consistent and error free. Thus, accepted. CL is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.1
Description of the audit finding		Date:	30/01/2024
PP is requested to submit the following documents to VVB to verify the Monitoring data and parameters: 1. Provisional acceptance protocol 2. Training records and SSI records 3. Calibration certificates 4. TEIAS and EPIAS records 5. Technical Specifications of the Equipment 6. Employee attendance sheet and Salary Slips 7. Connection Agreement 8. Electricity Meter photos 9. Generation License 10. Single Line Diagram 11. Submit photographs of before and after the implementation of the project activity. 12. Logbook / Grievance register 13. Landfill area documents 14. Declaration for decommissioning of anaerobic digester Thus, CL#03 is raised.			
Project Participant's response		Date:	23/05/2024

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.1
The following documents have been submitted: 1. Provisional acceptance protocol 2. Training records and SSI records 3. Calibration certificates 4. TEIAS and EPIAS records 5. Technical Specifications of the Equipment 6. Employee attendance sheet and Salary Slips 7. Connection Agreement 8. Electricity Meter photos 9. Generation License 10. Single Line Diagram 11. Submit photographs of before and after the implementation of the project activity. 12. Logbook / Grievance register 13. Landfill area documents 14. Declaration for decommissioning of anaerobic digester			
Documentation provided as evidence by Project Participant			
1. Provisional acceptance protocol 2. Training records and SSI records 3. Calibration certificates 4. TEIAS and EPIAS records 5. Technical Specifications of the Equipment 6. Employee attendance sheet and Salary Slips 7. Connection Agreement 8. Electricity Meter photos 9. Generation License 10. Single Line Diagram 11. Submit photographs of before and after the implementation of the project activity. 12. Logbook / Grievance register 13. Landfill area documents 14. Declaration for decommissioning of anaerobic digester			
Auditor's assessment comment		Date:	27/05/2024
Assessment team verified that the PD has submitted the following documents –			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.1

- PD has provided the provisional acceptance protocols which has been authorized by Energy and Natural Resources Ministry to ITC Adana Energy Uretim Sanayi Ve Ticaret with different capacities –
 - 7 engines: - 1.451 MW which is dated on 16/07/2010
 - 3 engines: - 1.451 MW which is dated on 21/11/2012
 - 1 engine: - 1.451 MW which is dated on 16/07/2010
 This document found consistent. Thus, this part of **CL is closed.**
- PD has provided the Training records and SSI Records which has found consistent with the document. The trainings are Environment Training (dated on- 18/01/2023), Emergency support team training (dated on- 05/01/2023), Health training (dated on- 20/12/2022 and 16/01/2023), security trainings (dated on- 28/06/2022, 16/05/2022, 29/06/2022 and 23/08/2022)- these training are covered under OHS trainings. All the trainings are found consistent. Thus, this part of **CL is closed.**
- PD has provided the calibration certificates which is authorized by MEDENI BASKUL SAN. VE TIC LTD. STI. Dated on 01/03/2021. These certificates are found consistent with the given documents. Thus, this part of **CL is closed.**
- PD has provided the TEIAS and EPIAS records which has found consistent. Thus, this part of **CL is closed.**
- Assessment team found that the PD has provided all the technical equipment details which has been used in the project activity. The details of following equipment were given- Flow Meter, Temperature Measurement device, Gas Analyzer and Gas Engine The details are found consistent. Thus, this part of **CL is closed.**
- Assessment team found that PD has provided the Employee Attendance sheet and salary slip which has found consistent with the given details. Thus, this part of **CL is closed.**
- Assessment team found that the PD has provided the Connection Agreements which has signed between ITC Adana Enerji Toroslar and EDAS Adana Provincial Production Industry and Trade, dated on- 18/06/2010. Another is ITC Apana Tenders and Mehmam Kayaci Deputy Provincial Director Distribution and Retail dated on 14/12/2012. Hence, the documents found consistent. Thus, this part of **CL is closed.**
- During document review assessment team found that; details related to energy meter, flow meter and other monitoring equipment and details is found consistent with calibration certificates thus found accepted. CL is closed.
- Assessment team found that the PD has provided the Generation License (License No. EU/11115-1/05198) authorized by Energy Market Regulatory Authority, for a period of 17 years 5 month start from- 11/08/2022. This license found consistent. Thus, this part of **CL is closed.**

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.1

10. Assessment team found that the PD has provided the Single line diagram which has found consistent with given diagram. Thus, this part of **CL is closed**.

11. Assessment team found that PD has provided the photographs before and after implementation of the project activity. Thus, this part of **CL is closed**.

12. During assessment, it was found that the Logbook / Grievance register is submitted to project proponent. It is found consistent and thus accepted. **CL is closed**.

13. Assessment team found that the PD has provided the EIA Report, which contains the area of landfill. It is found consistent with validation report thus accepted.

14. Assessment team found that the PD has provided the Declaration for decommissioning of anaerobic digester on behalf of ITC Adana Energy Production Industry and Trade Inc. dated on 08/05/2023. This declaration found consistent. Thus, this part of **CL is closed**.

Thus, all the CL is closed in this section.

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	04
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	1.3
Description of the audit finding		Date:	30/01/2024
1. Monitoring period number is 3 (2 nd Crediting Period) mentioned on the Cover page of the MR. Kindly Clarify and submit the previous verification documents. 2. Applied Methodology ACM0001; Title mentioned on the cover page of the MR does not in line with the applied Methodology available on the web-site. Thus, CL#04 is raised.			
Project Participant's response		Date:	23/05/2024
1. The number of monitoring period on the cover page has been revised. The previous verification documents have been submitted. 2. The name of the applied methodology has been revised where necessary in the MR.			
Documentation provided as evidence by Project Participant			
1. Previous verification documents 2. Revised monitoring report			
Auditor's assessment comment		Date:	27/05/2024

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	04
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	1.3
1. Assessment team verified that; PP has updated the monitoring report and monitoring period is updated in revised MR, it is found in line with signed contract and as per audit plan. Thus accepted. 2. Assessment team verified that; PP has updated the monitoring report and title of the monitoring report has been updated. It is found consistent with applied methodology and thus accepted. Thus, CL is closed in this section.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	05
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	1.3
Description of the audit finding		Date:	30/01/2024
During site visit dated 05/12/2023, it is observed that Set of Gas Engines operational at project site is not inline with the Registered PDD. Thus, PP is requested clarify the Design change of the project as per the Design change requirements Template v.1.1. Thus, CL#05 is raised.			
Project Participant's response		Date:	23/05/2024
According to the Deviation Request Decision dated 01/04/2024, "For the monitoring period from 03/10/2022 to 31/07/2023, no design change is applicable. Since 2 gas engines are disconnected from the system on 18/10/2023, only 9 gas engines would be working, and there would be a change in the capacity during the next monitoring period starting from 01/08/2023.". Thus, it has been clarified that no design change is required since the change is beyond this monitoring period.			
Documentation provided as evidence by Project Participant			
the Deviation Request Decision dated 01/04/2024			
Auditor's assessment comment		Date:	27/05/2024
Assessment team verified that; PP has updated the monitoring period in revise monitoring report and it is found consistent with signed contract. Moreover, the deviation requested by PP is not approved and it does not fall under present monitoring period there is no need to go for design change in this verification period. thus, accepted, CL is closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	06
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	N/A
Description of the audit finding		Date:	09/08/2024
1. During document review assessment team found that; ex-ante and ex-post parameter for present monitoring period is found missing w.r.t. register GS-PD. PP is request to clarify the same. Thus, CL is open. 2. Assessment team found that; Monitoring equipment details are provided in monitoring report however the calibration details are found incomplete.. Kindly clarify & update the same. CL is open			
Project Participant's response		Date:	16/08/2024
1. All ex-post and ex-ante parameters in the registered PDD have been added to the MR. 2. Calibration details have been added.			
Documentation provided as evidence by Project Participant			
Revised MR			
Auditor's assessment comment		Date:	16/12/2024
01. During document review, assessment team found that; Monitoring parameter is still found missing in monitoring report as per register GS-PDD. Thus, CL is open, until PP update the parameter. 02. Assessment team found that; Details of the monitoring equipment is missing in MR, Moreover, since many of the monitoring parameter is missing, the calibration and monitoring equipment details are found missing in monitoring report, thus CL is open till the required correction is done. Thus, CL is open.			
Project Participant's response		Date: 18/12/2024	
1. Required monitoring parameters have been added. 2. Monitoring equipment details have been added.			
Documentation provided as evidence by Project Participant			
Revised MR			
Auditor's assessment comment		Date:	27/05/2024
1. VVB team verified that; Monitoring Parameter is still found inconsistent with respect to register PDD, thus PP is request to update the same and maintained the consistency. Thus, CL is still open. 2. During document review assessment team found that; PP has updated the calibration details and it is found that; calibration details is still inconsistent and needs to clarify the same, moreover ex-post parameter is found inconsistent with register PDD, Thus, CL is open.			
Project Participant's response		Date: 19/02/2025	

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	06
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	N/A
1. Monitoring parameter as per the registered PDD now have been added in the monitoring report. 2. For temperature meter, according to the recommendation of the supplier, no calibration is necessary for the HASSE temperature meter. Supportive document now provided. And this parameter is not used for calculations, it is only monitored to verify the applicability condition is met related gaseous stream flow temperature being 60°C.			
Documentation provided as evidence by Project Participant			
1. Monitoring report 2. HASSE temperature meter supplier document.			
Auditor's assessment comment		Date:	21/02/2025
1. Assessment team verified that; PP has updated the monitoring report and it is inline with register GS-PDD thus accepted. 2. Assessment team check the temperature meter records and it is find consistent, moreover assessment team verified that; parameter is not used for calculations, it is only monitored to verify the applicability condition is met related gaseous stream flow. Thus, accepted CL is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	1.3
Description of the audit finding		Date:	30/01/2024
1. Date of last annual report on the cover page of the MR is not in line with latest annual report available on the GS web-site. Corrective action sought for the same. 2. Discrepancies were observed in the various sections of the MR and same provided as comments in the submitted MR. Corrective action sought for the same. 3. SDG 13, ER value mentioned in the Table 1 of the MR is not in line with ER sheet 4. As the Project is already commissioned, revise language of the phares throughout the MR. 5. 'Amount of landfill gas flared' mentioned in the Section C of the MR is not in line with Registered PDD. Thus, CAR#01 is raised.			
Project Participant's response		Date:	23/05/2024

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	1.3
1. The date of last annual report on the cover page of the MR has now been made in line with latest annual report available on the GS website. 2. All the discrepancies have now been rectified in the monitoring report as per the raised comments. 3. ER values mentioned in the Table 1 have been revised. 4. The language has been revised throughout the MR considering that the project has already been commissioned. 5. There was no 'Amount of landfill gas flared' in the Section C of the MR, it has been added to Section C.			
Documentation provided as evidence by Project Participant			
1. Latest annual report 2. Revised monitoring report			
Auditor's assessment comment		Date:	27/05/2023
1. During assessment it was observed that the latest annual report in MR is still not in line with the report which is available on the GS website. So, PD has requested to update the date of latest annual report. Thus, this part of CAR is open. 2. During assessment it was observed that there are discrepancies in the monitoring report, in that case PD has cleared all the discrepancies where necessary. Thus, this part of CAR is closed. 3. During assessment it was observed that the value of GHG Emission Reduction (SDG 13) is not inline with the ER sheet. So, PD has requested to update the Table 1. Moreover, section E.5 of the monitoring report is also found inconsistent. Thus, this part of CAR is still open. 4. During assessment it was observed that the project was already commissioned and PP has updated the language in section A.1 and throughout the monitoring report. Thus, this part of CAR is closed. 5. Assessment team found that; PP has included the details of landfill gas flared in present monitoring period, however amount of landfill gas is found inconsistent with emission reduction sheet. Thus, CAR is open.			
Project Participant's response		Date:	19/08/2024
1. The latest annual report date is correct. The latest annual report is dated 11/12/2023 as stated in the MR. 3. The values in Table 1 and Section E.5 have been revised. 5. The amount of landfill gas flared during this monitoring period is zero as indicated both in MR and ER Sheet.			
Documentation provided as evidence by Project Participant			
- Revised MR - Latest annual report			
Auditor's assessment comment		Date:	16/12/2024

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	1.3
01. Assessment team verified that; PP has submitted the latest annual report dated 11/12/2023 same is found in-line with GS-webpage, thus accepted, CAR is closed. 02. Assessment team observed that; the estimated emission reduction value is corrected in MR, however it is found inconsistent and not updated in emission reduction sheet, thus PP is requested to maintained the consistency, till then CAR is open. 03. Assessment team verified that; PP has updated the value of Amount of methane in the LFG that is generated from the SWDS during the present verification period, moreover it has been cross-checked with emission reduction sheet and found it consistent and error free, thus accepted. Thus, CAR is closed.			
Project Participant's response		Date: 18/12/2024	
2.The value in the ER Sheet has been revised.			
Documentation provided as evidence by Project Participant			
Revised MR and ER Sheet			
Auditor's assessment comment		Date:	27/01/2025
Assessment team verified that; estimated emission reduction value has been corrected and updated in the revised ER sheet, thus it is found correct and consistent with monitoring report, thus accepted, CAR is closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.5
Description of the audit finding		Date:	30/01/2024
1. Electricity generation value of the project is 8,780.7 MWh of SDG 07 mentioned in the E.2 Section of the MR which is not in line with ER sheet. 2. Estimated number of Employees mentioned in the Section E.6 of the MR is not in line with the Registered PDD. 3. PD shall clarify why TDL value is not involved in the Calculation of the Baseline emissions under 'Electricity generation' Tab of the ER sheet. 4. PD shall check formula of the Number of days calculated for the current monitoring period under ER sheet. Thus, CAR#02 is raised.			
Project Participant's response		Date:	23/05/2024

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.5
1. The value of electricity generation in Section E.2 has been revised. 2. The estimated number of employees has been revised as per the registered PDD. 3. TDL has not been included in the baseline calculations since the losses have already been excluded from the electricity generation values used in the calculations. 4. Formula for the number of days has been revised.			
Documentation provided as evidence by Project Participant			
Revised Monitoring Report			
Revised ER Sheet			
Auditor's assessment comment		Date:	28/05/2024
1. Assessment team verified that; value of the electricity generation for project (SDG 7) is found inline with EPIAS evidence and further it has been cross check with TPIAS data and it is found consistent and thus accepted. 2. Assessment team verified that; details about the employment generation is found consistent with employment generation records and also found inline with register GS-PD. Thus, accepted. 3. Assessment team verified that; PP has added the TDL_{k,y} in revised emission reduction sheet and calculation is found consistent and error free, thus found accepted. 4. PP has corrected the formula to calculate the no of days in revised emission reduction sheet and it is found consistent thus accepted.			
Thus, CAR is closed in this section.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.4
Description of the audit finding		Date:	30/01/2024
1. Calibration meter details, Gas analysers and flow meter details are found missing in the section D.2 of the MR. 2. Project Developer shall submit <i>No double counting certificate</i> of project that the project is not registered with any other GHG voluntary or compliance schemes. Kindly submit. Thus, CAR#03 is raised.			
Project Participant's response		Date:	23/05/2024

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.4
1. Calibration details of the Gas analysers and the flow meters have been included in section D.2 of the Monitoring Report. 2. No double accounting certificate has been provided.			
Documentation provided as evidence by Project Participant			
1. Calibration Certificates 2. No double counting declaration			
Auditor's assessment comment		Date:	13/08/2024
1. During document review assessment team found that; PP has provided the calibration details of the Gas analysers and flow meter is provided in the updated monitoring report. However, the details of the calibration frequency and due date of calibration is found missing. Thus, CAR is open. 2. Assessment team found that the PD has provided the no double counting certificate which is dated on 16/05/2022. However, detail of the monitoring period and submission date need to be update. Till Then, this part of CAR is open .			
Project Participant's response		Date:	16/08/2024
1. Calibration frequencies and due dates of monitoring equipment have been added to the related parameter tables. 2. An updated no double counting declaration has been provided.			
Documentation provided as evidence by Project Participant			
- Revised Monitoring Report - Revised No double counting declaration			
Auditor's assessment comment		Date:	16/12/2024
1. Assessment team verified that; Gas analyser details are updated in monitoring report and gas analyser details are found consistent with calibration certificate; however, the flow meter details are found inconsistent, thus CAR is open till the details are corrected . 2. Assessment team verified that; PP has submitted the no double accounting declaration for present monitoring report dated; 20/08/2024 and it is found consistent. Thus, accepted, CAR is closed .			
Project Participant's response		Date: 18/12/2024	
1. Flowmeter details have been revised. Gas analyser details have been found to be consistent with the calibration document.			
Documentation provided as evidence by Project Participant			
Revised MR			
Auditor's assessment comment		Date:	27/01/2025
Assessment team verified that; PP has updated the monitoring report and calibration details of the flow meter is now consistent with submitted certificate and it is found consistent and error free, thus accepted. Thus, CAR is closed .			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Dr. Atul Takarkhede	Ref. to checklist in above tables:	3.4
Description of the audit finding	Date: 30/01/2024		
Project Owner requested to provide the emission factor details of Turkish national grid in line with requested GS PDD. Corrective action sought for the same.			
Project Participant's response	Date: 23/05/2024		
Document regarding the applicable emission factor of the Turkish national grid has now been submitted to the assessment team.			
Documentation provided as evidence by Project Participant			
Turkish national grid emission factor document.			
Auditor's assessment comment	Date: 28/05/2024		
During assessment it was found that the emission factor details of Turkish national grid is missing. In that case, PD has submitted the Turkish national electric network emission factor document dated on 02/09/2022. Thus, this part of CAR is closed .			

Appendix 2: Calibration details of monitoring meters

Details of Meter Calibration:

VVB team found there is no delay in calibration of energy meters and Calibration meter details are verified with the Calibration Certificates issued by Nano Enerji Elektrik Olco Sistemier All Erkan ERKOL ve Ort. which are found correct.

	Main Meter	Back-up Meter
Brand	Landis +GYR	ITRON
Type	ZMG 405 CR4	SL761 X071
Serial No	40184798	84500425
Accuracy Class	0.5s	0.5s
Production Year	2019	2020
Calibration Date	22/08/2019	20/02/2020
Calibration Due Date	21/08/2029	19/02/2030

Temperature Meter details:

Brand	Type	Serial No	Calibration Date	Calibration Due Date
NOVA	ODERTD-OR03B1H09-15 U HT	080201120	27/04/2022	26/04/2032
Elimko	E-RT30-RK-1P06-34,1/39,1-Ü-E8-G1/2-V-W	22030580.011.01029960 ¹⁴	23/01/2023	22/01/2033

Flow Meter:

Sr. No.	Brand	Type	Serial No	Accuracy Class	Calibration Date	Calibration Due Date
1	ABB	2600 T	6410028945	±0.075%	27/04/2022	26/04/2032
2	ABB	266DSHESSA1A1 E1	6408024740 ¹⁵	±0.075%	16/11/2022	15/11/2032
3	SAGE	402-05-10-DC24-BIOGAS-	209750-37035	±0.075%	25/06/2020	24/06/2030

¹⁴ This device is installed on 27/01/2023 as a replacement of device with brand HAASE with serial number of 2006000477/920-1 and according to its manufacturer specifications there is no calibration required after its first calibration. HAASE device was calibrated on 17/09/2008.

¹⁵ This device was installed on 21/11/2022 as a replacement of ABB device with the serial number of 6409029303 which was calibrated on 09/12/2024 (valid until 08/12/2034)

		HSENINS- CBL0050				
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Gas Analyzer:

Brand	Type	Serial No	Calibration Date	Calibration Due Date
SICK	SIDOR S700	765621	02/09/2022	01/09/2032

Appendix 3: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Dr. Atul Takarkhede	Dr. Atul Takarkhede, is Ph.D. (Environmental Sciences) from Institute of Science, RTM Nagpur University, Nagpur, and he has already published different technical papers related to environmental sciences. He counts with more than 18 years of experience in field of Environmental Auditing, Consulting and Accreditation. He is an expert in ISO 9001-14001, CO₂/GHG Reporting, Carbon Footprint, Energy, Water and Waste Management reporting for organizations' environmental performance. His professional portfolio is mainly related with carrying out EIA, conducting QA/QC of EIA Reports; conducting environmental/water audits; NABET requirements appliance, functional area expert in Water Pollution & Solid & Hazardous Waste management among others. Furthermore, he counts with solid experience on CDM-VCS-GS consultancy and auditing. He has extensive experience of about 10 years with various DOEs, including UNFCCC CDM and other carbon related schemes (e.g. VCS, GS, GCC) in renewable energy, cement industries, biomass projects and waste handling & management projects. Currently he is associated with True Quality Certifications Private Limited (Applus+ Certification's Outsourced Entity) and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes. Dr. Atul Takarkhede is based in Nagpur, India. Dr. Atul Takarkhede participates as part of the Audit Team as the Lead Auditor, Technical Expert & GS approved auditor.
Mr. Deepak Pundlik	Mr. Deepak Pundlik has more than 15 years of experience in climate change, waste management and environmental management. After completing Masters in Environment Sciences from Pune university, he worked in the waste management field. As a GHG consultant, he handled projects under renewable energy, waste management sectors during his stint with companies MITCON and Thermax Limited. Post Thermax, Deepak was involved in organic farming research project with Tata Institute of Social Sciences. As a GHG auditor, he has validated/verified projects under CDM/VCS/GS and GCC mechanisms from renewable energy, energy demand, waste management sectors. Currently he is associated with True Quality Certifications Private Limited (Applus+ Certification's Outsourced Entity) as GHG Auditor. He has experience in validation/verification assessments under CDM/VCS/GS and GCC mechanisms for the Sectoral Scopes of renewable energy, energy demand and waste management. Mr. Deepak Pundlik is based in Pune, India. Mr. Deepak Pundlik participates as part of the Audit Team as Lead Auditor, Technical Expert for the assessment.
Mr. Ishan Shrivastava	Mr. Ishan Shrivastava, a Bachelor of Engineering in Mechanical Engineering graduate from Rajiv Gandhi Proudhyogiki Vishwavidyalaya, India, brings a year of professional expertise garnered from his tenure at GAIL (India) Limited, one of India's prestigious Maharatna Companies, where he focused on Natural Gas, Energy, and Environmental matters. Currently, he actively associated with True Quality Certifications Pvt. Ltd., (Applus+ Certification's Outsourced Entity) having served as a pivotal team member since 2019. In this capacity, Ishan plays a

Name	SHORT CV. BACKGROUND INFORMATION
	significant role in supporting Audit teams as Lead Auditor & Technical Expert (TA 1.2, 3.1 and 13.1) tasked with validating/verifying Project Activities, encompassing both Renewable and non-Renewable projects, within the framework of CDM/VCS/GS4GG/Bio-Carbon/GCC/ICR programs. His steadfast dedication to this pivotal responsibility underscores his expertise and unwavering commitment to the field Mr. Ishan Shrivastava is based in Indore city, India. Mr. Ishan Shrivastava participates as Lead Auditor and Technical Expert for this project activity
Mr. Khagesh Sharma	Mr. Khagesh Sharma holds a Bachelor of Engineering in Electronics and Communication Engineering from Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal, India. With 3 years of professional experience, he has expertise in solar project design, consulting, and operation and maintenance activities. Currently he is associated with True Quality Certifications Private Limited (Applus+ Certification's Outsourced Entity) and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes having served as a pivotal team member since 2022. In his current role, he contributes to the verification of project activities, encompassing both renewable and non-renewable projects, under the CDM, VCS, and GS4GG programs. Furthermore, he serves as an auditor verifier and technical expert for sectoral scope 1.2. Mr. Khagesh Sharma participate as part of the Audit Team as Observer.
Dr. Yusuf Serengil	Dr. Yusuf Serengil is a Forest Engineer with a Ph.D. in Watershed Management. He has experience in climate change at both policy and technical accounting (GHG inventory) levels. He has been involved in the UNFCCC process since 2010 as a technical land-use sector advisor. He participated in projects in Kyrgyzstan, Palestine, and USA and took part in review teams reviewing several countries' GHG inventories. He is a LULUCF expert with all the UNFCCC GHG expert certificates, including GHG inventory review expert, Biennial Report expert, Biennial Update Report expert, and National Communications. Dr. Yusuf Serengil is based in Istanbul. Currently he is associated with True Quality Certifications Pvt. Ltd. as Local Expert in Turkiye.
Mr. David Lubanga	Mr. David Lubanga is a trained engineer with over 10 years' experience as a GHG auditor. His experience in the field includes assessment of renewable energy projects, energy efficiency, energy audits and waste management and waste to energy. He is a certified auditor for ISO 50001 and 14064-2. He has successfully audited more than 300 GHG (CDM/VCS/GS) projects in different countries around the world. David holds a BSc. in Biochemical Engineering from Jacobs University Bremen (Germany), and a MSc in Environmental Resource Management from Brandenburg Technical University Cottbus (Germany), and Sheffield Hallam University (England). He has undergone additional professional training in Renewable energies, Renewable Energy and Finance, Energy Efficiency and waste management in Scotland, Germany and Austria. Mr. David Lubanga is based in Nairobi, Kenya. Mr. David Lubanga participates in the project assessment as Technical Reviewer.

Name	SHORT CV. BACKGROUND INFORMATION
Mr. Denny Xue	Mr. Denny Xue (Master's Degree in Environmental Engineering, Bachelor's Degree in Thermal Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project assessment and technical review with Applus+. Before he joined Applus+ LGAI, he has been working for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development. Mr. Denny Xue is based in Shanghai, China. Mr. Denny Xue participates as part of the Technical Review Team as Technical Reviewer.