

GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT

-

DESIGN CERTIFICATION (RENEWAL)



Project Title: Sakarya Landfill Gas Power Plant
GS project ID: GS 6193
Internal ID: A+SH_SYST_TQC_GS_RCP_7225
Customer: ClimeTrek Ltd (PP: Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi)
Date: 10/09/2026
Revision: 04

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
A+SH_SYST_TQC_GS_RCP_7225	06/01/2026	04	10/09/2026
Client	ClimeTrek Ltd.		
Project Title	Sakarya Landfill Gas Power Plant		
Project Developers	SAKARYA ENTEGRE KATI ATIK YÖNETİMİ A.Ş.		
Project Location	Adapazari District of Sakarya, Turkey		
Contact Person	Mr. Cengiz Esmen		
GS4GG Version: GS4GG Principles and Requirements, version 2.1^{13/} - GS4GG Validation and Verification Standard, Version 2.0^{9/} - Renewable Energy Activity Requirements, Version 1.4 Applied Methodology: ACM0001: 'Flaring or use of landfill gas version 19.0¹ The following tools and guidance's have been followed (References): Tool 04 Emissions from solid waste disposal sites (V 08.1)² Tool 32 Positive lists of technologies (V 04.0)³ Tool 10 to determine the remaining lifetime of equipment (V 01)⁴ Tool 05 Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (V 03.0)⁵ Tool 06 Project emissions from flaring (V 04.0)⁶ Tool 08 to determine the mass flow of a greenhouse gas in a gaseous stream (V 03.0)⁷ Tool 02 Combined tool to identify the baseline scenario and demonstrate additionality (V 07.0)⁸ Tool 03 to calculate project or leakage CO2 emissions from fossil fuel combustion (V 03.0)⁹ Tool 09 Determining the baseline efficiency of thermal or electric energy generation systems (V 03.0)¹⁰ Tool 07 to calculate the emission factor for an electricity system (V 07.0)¹¹		GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1, 13 Technical Area: 1.1 and 13.1 Project scale: large-scale project	

¹ <https://cdm.unfccc.int>

² <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-04-v8.1.pdf>

³ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-32-v4.0.pdf>

⁴ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-10-v1.pdf>

⁵ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-05-v3.0.pdf>

⁶ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-06-v4.0.pdf>

⁷ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-03-v3.pdf>

⁸ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-02-v7.0.pdf>

⁹ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-03-v3.pdf>

¹⁰ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-09-v3.0.pdf>

¹¹ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

• Tool 11 Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (V 03.0.1)¹²		
GS4GG First PDD Version: 01 Date: 14/09/2025		GS4GG Final PDD Version: 05 Date: 31/08/2026
Estimated Annual SDG Impacts:		
Sustainable Development Goals Targeted	SDG Impact	Estimated Annual Average
13 Climate Action	Emission Reduction	114,762 tCO ₂ /year GSVERs
7 Affordable and Clean Energy	Generating Clean Energy	37,440 MWh/Year
11 Sustainable Cities and Communities	Municipal waste used for electricity generation	339,356 Tons/year
Selected Sustainable Development Goals (SDGs): 7; 11; 13		
Design Certification Summary		
LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by ClimeTrek Ltd (PP: Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi) to perform the GS validation (Renewal of GS Crediting Period) of “Sakarya Landfill Gas Power Plant” applying the UNFCCC approved methodologies – ACM0001: ‘Flaring or use of landfill gas version 19.0’^{6/} The management of ClimeTrek Ltd is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions^{3/}. A desk review, remote audit, document review has been conducted to validate the data submitted in the GS4GG PDD (RCP). Applus+ Certification confirms the following have been reviewed: a. Registered GS PDD^{1/} and previous monitoring period report^{4/} and the corresponding validation and verification report^{4/}; b. The applied monitoring methodologies; c. The Gold Standard for Global Goals “Principles and Requirements” Version 2.1 ^{13/} d. All information and references relevant to the project activity’s resulting in estimated emission reductions. The scope of the RCP validation is defined as an independent and objective review of the project design document, against the Kyoto Protocol requirements, UNFCCC rules, applicable requirement of Gold Standard^{9//13/}. The validation report is finalized based on the assessment of the GS4GG PDD, and applying standard auditing techniques including but not limited to document reviews, follow up actions (e.g., Remote audit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations. The project is applying for the renewal of the crediting period i. e. second crediting period from 01/07/2024 to 30/06/2029. However, it shall be noted that PD has applied for deviation seeking for the extension of design certification renewal submission deadline to the registry which was approved on 12/09/2025 with DEVRQ-211.		

¹² <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-11-v3.0.1.pdf>

The report and the annexed validation checklist describe a total of 07 findings which include:

- 06 Corrective Action Requests (CARs);
- 01 Clarification Requests (CLs/CRs);
- 02 Forward Action Requests (FARs) (Including 1 FAR from previous performance Review round);

The Project Developer (PD) has responded these findings by modifying the GS4GG PDD and providing adequate additional explanations and evidences. Applus+ Certification confirms that all the findings have been closed successfully before submitting the request for renewal to GS board (Renewal of Crediting period).

As a summary of the RCP validation, the review of the GS4GG PDD and the subsequent follow-up interviews & remote visit inspection have provided Applus+ Certification with sufficient evidence for the determination of the project's fulfillment with all stated criteria. In our opinion, the project meets all relevant requirement of Gold Standard. Therefore, Applus+ Certification recommends the project for renewal of crediting period by the GS Registry as GS VER project.

ASSESSMENT TEAM		
Team Members	Type of Resource ¹³	Organization (for OEs)
Lead Auditor: Mr. Ishan Shrivastava (Former: Mr. Deepak Pundlik) ¹⁴	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Expert & GS approved Auditor: Mr. Ishan Shrivastava	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Reviewer: Mr. Nikunj Agarwal	☐ IR ☒ EI ☐ OE	-
Note: In line with the Section 6.8 of GS Validation and Verification Standard Version 2.0 dated on 12/11/2024, that the VVB hereby discloses that the Applus+ Certification had performed Performance certification (verification) of this project with different team members i.e., LA & TE: Dr. Atul Takarkhede, TR: Mr. Denny Xue.		

¹³ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

¹⁴ Mr. Deepak Pundlik served as the initial Lead Auditor and Technical Expert for this project. He conducted the remote assessment of the project. However, from 10/10/2025, Mr. Deepak is no longer associated with M/s True Quality Certifications Private Limited, therefore subsequent assessment has been carried out by different team member, viz Mr. Ishan Shrivastava as Lead Auditor. Technical expert & GS Approved auditor.

ABBREVIATIONS	
AMS	Approved Methodology Small Scale
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
CM	Combined Margin
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 Reductions
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
NGO	Non-Governmental Organization
RCP Validation	Validation for Renewal of Crediting Period
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
OM	Operational Margin
PD	Project Developers
PS	Project Standard
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body
VER	Verified Emission Reduction
TEIAS	Turkish Electricity Transmission Company

Table of Content

Contents

1.	INTRODUCTION	7
1.1	Objective	8
1.2	Scope	9
2.	METHODOLOGY.....	9
2.1	Appointment of the assessment team.....	10
2.2	Document review.....	11
2.3	Onsite Assessment and Follow up Interviews	11
2.4	Resolution of Clarification and Corrective Action requests.....	13
2.5	Internal Quality Control	13
3.	PROJECT DESIGN CERTIFICATION ASSESSMENT	14
3.1	Approval	14
3.2	Participation.....	14
3.3	Scale of the project	14
3.4	Greenhouse Gases	15
3.5	Project timeframe	16
3.6	Public announcement	17
3.7	Project Boundary	17
3.8	Baseline Identification	18
3.9	Eligibility Principles Assessment	21
3.10	Calculation algorithm and/or formula used to determine emission reductions ..	37
4.	REFERENCE	59
5.	FINAL PROJECT DESIGN CERTIFICATION RENEWAL STATEMENT	61
	Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table	63
	Appendix 2: Audit Team CVs	74
	Appendix 3: Calibration details.....	76

1. INTRODUCTION

ClimeTrek Ltd (PP: Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi) has contracted Applus+ Certification to perform validation for Renewal of Crediting Period (RCP) of "Sakarya Landfill Gas Power Plant" (hereafter referred to as the project activity). This validation report summarizes the findings of the RCP validation of the project, performed on the basis of GS4GG Validation and Verification Standard^{/9/} version 2.0, Principles & Requirements^{/13/} Version 2.1, as well as all relevant requirement of Gold Standard.

Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi has implemented a landfill gas to energy project with an installed capacity of 4.68 MW at the municipal solid waste landfill site in Sakarya, Türkiye, covering an area of approximately 200,000 m². As verified against the generation license^{/15/} issued by Energy Market Regulatory Authority (EMRA), the licensed operational capacity of the project is confirmed to be 4.68 MW.

The project activity achieves greenhouse gas (GHG) emission reductions through two distinct mechanisms:

- (i) the generation of electricity from landfill gas, a renewable energy source, thereby displacing electricity that would otherwise be supplied by fossil fuel-based thermal power plants connected to the national grid; and
- (ii) the controlled capture and utilization of methane generated from the anaerobic decomposition of municipal solid waste, which would otherwise be released to the atmosphere.

The project contributes to promoting the commercial utilization of municipal waste for renewable electricity generation in Türkiye. The electricity generation license was granted by EMRA on 04/10/2018. The waste disposal site is delivered by the municipality on 02/01/2018 and the start of operation of the facility is 30/10/2018.

This has been verified by the assessment team based on the remote visit^{/18/}, the registered PDD^{/1/}, and previous monitoring report^{/4/}.

By recovering methane from a landfill site in order to produce energy in the process displacing fossil fuel-based power grid generation with renewable energy, the project results in reductions of CO₂ emissions and non-CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario as there is no universally mandate regulations for flaring in Turkey or for the generation of energy from landfill gas as validated through the analysis of relevant local environmental and waste management legislations such official website of the Ministry of Environment and Urbanization's General Directorate of Environmental Management provides a list of regulations¹⁵, Academic and Research Paper¹⁶ such as "*Landfill Gas to the Energy Potential of Turkey*" which shows a shift from basic waste storage to more advanced management, but describes the "gas to energy" approach as a developing potential rather than a nationwide, mandatory requirement. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

¹⁵ <https://cygm.csb.gov.tr/yonetmelikler-i-440>

¹⁶ <https://www.tandfonline.com/doi/abs/10.1080/15567249.2011.584113>

The project activity, promoted by SAKARYA ENTEGRE KATI ATIK YÖNETİMİ A.Ş., wherein the facility includes three gas generators (3 x 1.56 MW) that is in charge of electricity production regularly. The project is connected to the Turkish National Grid and is located in Sakarya. The electricity generated is sold to the grid. SAKARYA ENTEGRE KATI ATIK YÖNETİMİ A.Ş. acts as the Project Developer and is responsible for the implementation and operation of the project. This initiative contributes to the sustainable management of energy resources and aligns with climate security and development goals.

The project is estimated to generate approximately 37,440 MWh of renewable electricity annually. Consequently, the project is expected to achieve greenhouse gas (GHG) emission reductions of 114,762 tCO_{2e} per year, resulting in a total estimated emission reduction^{/3/} of 590,497 tCO_{2e} over the crediting period.

Assessment team checked the technical parameters of the project equipment during Remote audit and confirm that the details as mentioned in the GS PDD (RCP) submitted for third crediting period are correct.

Technology Transfer

No technology transfer from other countries is involved in the project which has been verified by the assessment team from the review of registered PDD^{/1/}, previous monitoring documents¹⁷ and on the basis of site inspection and interviews from the monitoring personnel.

The main purpose of the project activity is to generate electrical energy through sustainable means using landfill gas, to deliver the generated output to the Turkish national grid to contribute to climate change mitigation efforts.

The project activity has started operation/generation of electricity on 30/10/2018^{/26/}

The geo-coordinates of the Project activity are as under:

The coordinates of the project activity are as follows:

Dots:	Latitude (N)	Longitude (E)
1	4523710.266	532471.064
2	4523738.890	532462.087
3	4523744.826	532481.012
4	4523743.172	532488.700
5	4523718.245	532496.508

These were cross-checked during Remote audit on the basis of approved PDD^{/1/} and google Maps software.

1.1 Objective

The purpose of an RCP validation is to have an independent third-party assessment of the GS4GG PDD for renewal of crediting period and compliance with the GS requirements as described in the Gold Standard documentation and supporting documents by the client. Validation is part of the GS VER project cycle and will finally result in a conclusion by Applus+ Certification whether a

¹⁷ <https://assurance-platform.goldstandard.org/project-documents/GS764>

project activity is valid and should be submitted for registration/renewal of crediting period of a proposed project activity rests at the GS4GG and the parties involved.

1.2 Scope

The RCP validation scope is defined as an independent and objective review of the project PDD(RCP), the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against all applicable GS4GG requirements including the approved baseline and monitoring methodologies ACM0001: 'Flaring or use of landfill gas version 19.0^{6/} The validation was based on the requirements in the GS4GG Principles and Requirements^{13/}.

The validation is not meant to provide any consulting towards the project developers. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the GS PDD.

2. METHODOLOGY

The project assessment is based on the GS4GG validation and verification standard, Version 02.0^{9/} Gold Standard requirement for GS4GG and is conducted using standard auditing techniques to assess the correctness of the information provided by the project developers. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the project activity are appointed. Once the project is made available for Applus+ Certification, the members of the assessment team carried out:

1. A desk review of the PDD;
2. Follow-up interviews with project stakeholders;
3. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The prepared validation report and other supporting documents then undergo an internal quality control before being submitted to the GS Registry.

The GS overview documents which is referred as DVR is as below:

Validation Checklist Table 3: Resolution of Audit Findings					
Type:	☐ CAR	☐ CL/CR	☐ FAR	Number:	
Raised by:					
Description of the audit finding				Date:	
The description of the audit finding should be clearly included here.					
Project Developer's response				Date:	
The responses given by the project developers during the communications with the validation team should be included here.					

Documentation provided as evidence by Project Developer		
The evidences provided by the project developers should be included here.		
Auditor's assessment comment	Date:	
This section should include how the audit finding is assessed by the assessment team.		

This report describes a total of 07 findings which include:

- 06 Corrective Action Requests (CARs);
- 01 Clarification Requests (CLs/CRs);
- 02 Forward Action Request (FARs);

The Complete List of CAR/CL/FAR is included as Appendix 1 of this report.

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

- Lead Auditor (LA).
- Technical Expert (TE).
- Technical Reviewer (TR).

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
Mr. Ishan Shrivastava (Former: Mr. Deepak Pundlik) ¹⁸	LA/TE/GS approved Auditor	YES	YES	YES	NO
Mr. Nikunj Agarwal	TR	YES	YES	Yes	NA

The complete list of CVs is included as Appendix 2 of this report.

¹⁸ Mr. Deepak Pundlik served as the initial Lead Auditor and Technical Expert for this project. He conducted the remote assessment of the project. However, from 10/10/2025, Mr. Deepak is no longer associated with M/s True Quality Certifications Private Limited, therefore subsequent assessment has been carried out by different team member, viz Mr. Ishan Shrivastava as Lead Auditor, Technical expert & GS Approved auditor.

2.2 Document review

The GS4GG PDD^{/2/} submitted by the Client was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in Section 4 of this report.

2.3 Onsite Assessment and Follow up Interviews

A complete desk review of the PDD as well as all applicable country legal requirement and supportive evidences have been checked by the Assessment team. A remote audit was performed for the re-validation that has been conducted for the renewal of crediting period of the project activity as it was not mandatory at this point to conduct a physical site visit as per the clause 3.2 of the GS Site Visit and Remote Audit Requirements and Procedures – V2.0^{/9/}.

In order to allow a credible and sufficient means for the present validation, the VVB adopted standard auditing techniques for validation in line with GS4GG interim guidelines, as follows:

- Assessment team has performed interview with PD in order to check implementation, current situation, evaluation of data management, QA/QC system, project technology, training provided^{/10/}, monitoring, calibration^{/16/} etc. Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.
- Nameplates of all the major equipment's & metering arrangements.
- Document review.
- Interview with PP representatives (responsible for the management and monitoring of project activity), and Interview with stakeholders
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in the PDD and supporting documents.

The details activity done during Remote audit is as below:

Duration of Remote audit: 25/09/2025				
No.	Activity performed during Remote audit	Site location	Date	Team member
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, additionality, technical description of the project and Monitoring. (Discussion with PP) Assessment team interviewed the local stakeholder and confirmed that there is no grievance resulted from the project activity in and out of the project location. The stakeholder	Adapazari District of Sakarya, Turkey (via video conferencing)	25/09/2025	Mr. Deepak Pundlik

Duration of Remote audit: 25/09/2025				
No.	Activity performed during Remote audit	Site location	Date	Team member
	confirmed that the project resulted in employment and improves lifestyles of the personal/families in the nearby villages. (Discussion with Stakeholder)			

The stakeholder interaction during Remote audit is described below:

Name of the stakeholder	XXXXX
Occupation	Villager
VVB QUESTION: Did this landfill project cause any pollution? Answer: No, the plant does not cause any pollution. VVB QUESTION: Did local villagers getting benefitted due to project activity? Answer: Yes, peoples are getting benefitted through CSR activities. Company providing various trainings to youths and also helping local schools for buildings and study material etc. VVB QUESTION: Did PD promise employment opportunity? Answer: Yes, employment is generated for local peoples. The landfill plant and electricity generation plant have provided various direct and indirect employment opportunities to the locals. VVB also like to conclude that during the interviews with PP, that local people were employed for security and operation related work. VVB also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.	

Name of the stakeholder	XXXX
Occupation	Villager (Yukarisoku)
VVB QUESTION: Did this landfill project cause any pollution? Answer: No, the plant does not cause any pollution. VVB QUESTION: Did local villagers getting benefitted due to project activity? Answer: Yes, peoples are getting benefitted through CSR activities. Company providing various trainings to youths etc. VVB QUESTION: Did PD promise employment opportunity? Answer: Yes, employment is generated for local peoples. The landfill plant and electricity generation plant have provided various direct and indirect employment opportunities to the locals. VVB also like to conclude that during the interviews with PP, that local people were employed for security and operation related work. VVB also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.	

During interviews with locals and employees for project developer, verbal consent for disclosing private information, such as names of interviewees, technology users, Stakeholders on the Gold

Standard Impact Registry have been obtained in line with the requirement of 7.16.6.e of GS VVS^{9/}, Version 2.0.

Moreover, VVB also discussed labour conditions at project site during Remote audit by means of interviewing local stakeholders and confirmed that Project Developer is in compliance with national labour code/ national labour¹⁹ and occupational health and safety laws and no major accidents recorded at project site. All the employees at project site also given training on Occupational health and safety issues regularly. Same was checked by the VVB and was found correct^{10/}.

2.4 Resolution of Clarification and Corrective Action requests

The objective of this phase of the RCP validation was to resolve the requests for corrective actions and clarification and any other outstanding issues which needs to be clarified for Applus+ Certification positive conclusion on the PDD (RCP). The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 1 below.

However, this report describes a total of 07 findings which include:

- 06 Corrective Action Requests (CARs);
- 01 Clarification Requests (CLs/CRs);
- 02 Forward Action Request (FARs);

The Gold Standard GS4GG PDD version 03^{2/} submitted on 24/02/2026 for renewal of crediting period serves as the basis for the final assessment presented. Additional changes to the GS4GG PDD (RCP) during the RCP validation process are not considered to be significant with respect to the main Gold Standard objectives.

2.5 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the technical review committee. Each report has to be finally approved either by the head of technical review committee or the deputy. In case one of these two persons is a part of the audit team, approval can only be given by the other one.

After confirmation from the Project Developer, the validation opinion and relevant documents are submitted to the GS4GG Registry by the VVB.

¹⁹ <https://mevzuat.gov.tr/>

3. PROJECT DESIGN CERTIFICATION ASSESSMENT

3.1 Approval

The host country of the project activity is Turkey which is validated from the registered PDD.

The Republic of Turkey is the host country. Turkey has ratified the Kyoto Protocol (28/05/2009)²⁰. Turkish National Focal Point to the UNFCCC is the Ministry of Environment and Forestry.

3.2 Participation

Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi is the project developer from the host party Turkey. The host country involved is parties to the Kyoto Protocol and meet and requirements to participate in the Gold Standard.

3.3 Scale of the project²¹

The project activity is identified as a large-scale project in section A.4 of the GS4GG PDD (RCP) applying a large-scale methodology i.e. ACM0001: 'Flaring or use of landfill gas version 19.0.'^{6/} The total capacity of the power project is 5 MW, wherein the realized capacity is 4.68 MW as confirmed from the production license granted by the EMRA.

Assessment team also checked the requirements of latest applicable methodologies i. e. ACM0001: 'Flaring or use of landfill gas version 19.0'^{6/} and confirms that the project qualifies the requirement of the latest methodology also (i.e., scale, applicability, baseline, additionality and monitoring).

Type of project: The project involves is extracting and utilizing landfill gas (LFG), which is an eligible project type as it is in accordance with para 1.3.1 of the Annex A – Additional Eligibility Criteria for Specific Project Types under Gold Standard for The Global Goals Renewable Energy Activity Requirements^{9/}, Version 1.4.

The project involves the extraction and utilization of landfill gas (LFG). Since it includes methane recovery, the project accounts for emission reductions from both the avoidance of methane emissions and the utilization of the recovered methane for the delivery of energy services (electricity).

General Eligibility Criteria as per of GS4GG Energy Activity Requirements:

Assessment team reviewed the general eligibility criteria under Renewable Energy Activity Requirements, version 1.4^{9/} and found that criteria appropriately provided & justified in the Section A.1.1 of the GS PDD(RCP) ^{12/}. Assessment team confirmed that project does not differ from general eligibility criteria under activity requirement. Thus accepted.

Moreover, PD utilized the most recent and valid template, version 1.5 dated 29/06/2023, for the preparation of the Project Design Document (PDD) for the design certification renewal. The assessment team noted that PD meticulously adhered to all instructions outlined in the template, leading to its acceptance.

²⁰ <https://unfccc.int/node/61221>

3.4 Greenhouse Gases

The project activity leads to displacement of electricity generation from fossil fuel-based power plants connected to the regional grid by renewable energy generated utilizing landfill gas (LFG) waste handling. The operation of the project activity will result in reduction of carbon-dioxide from the atmosphere due to displacement of electricity in grid by the renewable energy. Hence, the greenhouse gas identified in the PDD is carbon dioxide which is duly validated by the VVB.

The GHG emission sources considered for the project boundary and their explanations are as follows:

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	LFG Emissions from decomposition of waste at SWDS site	CO ₂	No	CO ₂ emissions from decomposition of organic waste are not accounted since the CO ₂ is also released under the project activity.
		CH ₄	Yes	The major source of emissions in the baseline
		N ₂ O	No	N ₂ O emissions are small compared to CH ₄ emissions from SWDS. This is conservative
	Emissions from electricity generation	CO ₂	Yes	Major emission source since power generation is included in the project activity
		CH ₄	No	Excluded for simplification. This is conservative
		N ₂ O	No	Excluded for simplification. This is conservative
	Emissions from heat generation	CO ₂	No	Heat generation is not included in the project activity
		CH ₄	No	Heat generation is not included in the project activity
		N ₂ O	No	Heat generation is not included in the project activity
Project	Emissions from fossil fuel consumption for purposes other than electricity generation or transportation due to the project activity	CO ₂	No	Excluded for simplification. This emission source is assumed to be very small since the waste collection and transportation is out of project boundaries

		CH ₄	No	Excluded for simplification. This emission source is assumed to be very small
		N ₂ O	No	Excluded for simplification. This emission source is assumed to be very small
	Emissions from electricity consumption due to the project activity	CO ₂	Yes	May be an important emission source
		CH ₄	No	Excluded for simplification. This emission source is assumed to be very small
		N ₂ O	No	Excluded for simplification. This emission source is assumed to be very small
	Emissions from flaring	CO ₂	No	Emissions are considered negligible
		CH ₄	Yes	May be an important emission source
		N ₂ O	No	Emissions are considered negligible

3.5 Project timeframe

Other certification scheme: It was confirmed that the project activity has not applied for or claimed any other environmental certification, such as green or white certificates. In Turkey, there is no nationally implemented, tradable white certificate scheme comparable to those operating in certain European countries. Instead, Turkey operates a national renewable electricity certification system (YEK-G) under the energy market regulatory framework. This system allows electricity generators to demonstrate that the power supplied to the grid originates from renewable sources. The VVB has checked for double counting at the verification stage by reviewing all the relevant registries that could hold RECs from the project. The project activity is not registered under any other emissions trading program or any other mechanism that includes GHG allowance trading.

Following registries have been assessed:

<https://www.climateactionreserve.org/>

<https://registry.goldstandard.org/projects?q=&page=1>

<https://iceland.itmoregistry.net/Public/Project>

<https://biocarbonregistry.com/en/projects/>

https://projects.globalcarboncouncil.com/pages/submitted_projects

<https://registry.verra.org/app/search/VCS/All%20Projects>

The project is not registered under the international REC Mechanism e.g. I-REC Device Registry and the same is confirmed through the I-REC web site (<https://v-1.evident.app/Public/ReportDevices/>).

Assessment team checked the double counting clarification vide GS4GG guideline on double counting in the context of Green Certificate Schemes, 22/01/2015²¹.

A duly signed declaration^{/21/} submitted by PD confirms that the project activity is not taking any GHG emissions under any other mechanism. Assessment team also checked other GHG mechanisms (i.e. CDM²², VCS²³, GCC²⁴ etc.) and confirms that the project is not undertaking any GHG benefits at present nor intended to take it in near future.

3.6 Public announcement

Assessment team observed that project activity is registered under GS4GG mechanism²⁵ and during design certification, project activity already went stakeholder consultation period and no comments raised during the period thus accepted.

3.7 Project Boundary

PD has applied CDM approved large scale methodology for the current project activity.

According to clause 5.1 of the ACM001, *"The project boundary of the project activity shall include the site where the LFG is captured and, as applicable: (a) Sites where the LFG is flared or used (e.g. flare, power plant, boiler, air heater, glass melting furnace, kiln, natural gas distribution network, dedicated pipeline or biogas processing facility); (b) Captive power plant(s) (including emergency diesel generators) or power generation sources connected to the grid, which are supplying electricity to the project activity; (c) Captive power plant(s) (including emergency diesel generators) or power generation sources connected to the grid, which are supplying electricity in the baseline that is displaced by electricity generated by captured LFG in the project activity; (d) Heat generation equipment or sources which are supplying heat in the baseline that is displaced by heat generated by captured LFG in the project activity; and ACM0001 Large-scale Consolidated Methodology: Flaring or use of landfill gas Version 19.0 Sectoral scope(s): 01 and 13 8 of 39 (e) The transportation of the compressed/liquefied LFG from the biogas processing facility to consumers."*

The project not only contributes to climate change mitigation efforts but also targets SDGs 13, 7 and 11.

PD has clearly defined and identified the project boundary correctly which is checked and accepted by VVB. The supplied documentation included a technical description^{/11/} and design of the methane collection system and the LFG energy plant^{/11/} and the national grid electricity importing statistics are clearly demonstrated in section B.4 of the PDD(RCP)^{/2/}.

Further, the geographic and system boundaries for the relevant electricity grid can be clearly identified under section 3.10 of this report and information on the characteristics of the grid is

²¹ [Microsoft Word - 2015 12 Double Counting Guideline Published V1.doc](#)

²² <https://cdm.unfccc.int/Projects/projsearch.html>

²³ <https://registry.terra.org/app/search/VCS>

²⁴ <https://projects.globalcarboncouncil.com/>

²⁵ <https://assurance-platform.goldstandard.org/project-documents/GS764>

available as required by the “Tool to calculate the emission factor for an electricity system” (version 07.0).^{/15/} The electricity produced will be delivered to the Turkish national grid verified by the assessment based on the remote inspection^{/27/} and cross check of electricity generation records/TEIAS monthly reading reports^{/8/}.

3.8 Baseline Identification

This is the first renewal of crediting period and PD has established baseline as per the registered GS PDD version 10 dated 03/10/2023 (applicable for previous and first crediting period) ^{/1/} which is validated by VVB through its validation report^{/4/}.

PD has discussed baseline scenario identification in the current GS PDD (RCP) which was further checked against applicable methodologies and tools^{/7/} and found correct and hence accepted.

As this is renewal of crediting period, VVB need to access PD’s demonstration of the validity of baseline in line with Tool 11 “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” Version 03.0.1. ^{/11/}

The evaluation of the original baseline is performed in 4 steps, namely:

- Assessment of compliance of the baseline with relevant mandatory national and/or sectoral policies – PD has clearly demonstrated in section B.4 that the original baseline complies with all relevant national and sectoral policies. PP has referred the following policies which were cross checked to confirm that the current baseline complies with all relevant mandatory national and/or sectoral policies which have come into effect after the submission of the project activity for validation or the submission of the previous request for renewal of the crediting period and are applicable at the time of requesting renewal of the crediting period:
 - Electricity Market Law²⁶
 - Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy²⁷
 - Environmental Law²⁸
 - Regulation on Solid Waste Control²⁹
 - Regulation on Managed Waste Landfilling³⁰

Assessment team has conducted a comprehensive assessment to determine whether the conditions used to establish the project's baseline in the previous crediting period (first) remains valid for the renewal period (second). This evaluation focused on the legislative and policy environment, electricity sales prices, and the prevalence of similar project activities. With the assessment of submitted PDD (RCP)^{/2/}, remote inspection and cross check of registered GS4GG

²⁶ [Law Number: 4628 Ratification Date: 20/02/2001 Enactment Date: 03/03/2001] Reference: The official web page of EMRA; http://www.epdk.org.tr/mevzuat/kanun/elektrik/piyasalari_kanunu.pdf

²⁷ [Law Number: 5346 Ratification Date: 10/05/2005 Enactment Date: 18/05/2005] Reference: The official web page of EMRA; <http://www.epdk.org.tr/mevzuat/diger/yenilenebilir/yenilenebilir.doc>

²⁸ [Law Number: 2827 Ratification Date: 09/08/1983 Enactment Date: 11/08/1983] Reference: The official web page of the Ministry of Environment and Forestry; www.cevreorman.gov.tr/yasa/k/2872.doc

²⁹ [Last updated on 05/04/2005] Reference: The official web page of the Ministry of Environment and Forestry; <http://www.cygm.gov.tr/CYGM/Files/mevzuat/yonetmelik/kaky.doc>

³⁰ [Regulation number 27533 Enactment Date: 26/03/2010] Reference: The official web page of the Ministry of Environment and Forestry; http://www.cygm.gov.tr/CYGM/Files/mevzuat/yonetmelik/Duzenli_Depolama.doc

PDD^{1/}, VVB confirms that there have been no significant changes in the national legislation, energy policies, or market conditions that would invalidate the original baseline scenario. This was confirmed by the VVB from the publicly available sources of the host country, and also from the project personnels during the remote audit. The electricity tariff estimated at the time of validation is not changed in a way that would make the change the project's additionality, hence impacting the sensitivity analysis. Moreover, the market for similar projects does not indicate a shift in the baseline. However, a quantitative reassessment of the baseline is necessary. Therefore, baseline emission factor, which reflects the carbon intensity of the national electricity grid, has been recalculated using para 72 of Tool to calculate the emission factor of an electricity system^{15/} (version 07.0). This recalculation is standard practice for crediting period renewals to ensure the most current and accurate data is used. Therefore, the VVB concludes that the conditions for determining the baseline emissions remain valid, subject to the update of the baseline emission factor. In line with the FAR raised by the previous assessment team during the preceding crediting period, the latest available emission factor for Turkey has been applied in the current Design Certification Renewal. The project remains in full compliance with the Gold Standard requirements for baseline validity which is in line with the GS clause.

As this is renewal of crediting period, VVB need to access PD's demonstration of the validity of baseline in line with Tool 11 for "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" Version 03.0.1.

The evaluation of the original baseline is performed in 4 steps, namely:

Step 1: Assess the validity of the current baseline for the next crediting period: The Project requires assessing the impact of new relevant national and/or sectoral policies and circumstance on the baseline. The validity of the current baseline is assessed using the following sub-steps.

Step 1.1 Assessment of compliance of the baseline with relevant mandatory national and/or sectoral policies – PD has clearly demonstrated in section B.4 that the original baseline complies with all relevant national and sectoral policies. PP has referred the following policies which were cross checked to confirm that the current baseline complies with all relevant mandatory national and/or sectoral policies which have come into effect after the submission of the project activity for validation or the submission of the previous request for renewal of the crediting period and are applicable at the time of requesting renewal of the crediting period:

- Electricity Market Law³¹
- Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy³²
- Environmental Law³³

³¹ [Law Number: 4628 Ratification Date: 20/02/2001 Enactment Date: 03/03/2001] Reference: The official web page of EMRA; http://www.epdk.org.tr/mevzuat/kanun/elektrik/elektrik_piyasalari_kanunu.pdf

³² [Law Number: 5346 Ratification Date: 10/05/2005 Enactment Date: 18/05/2005] Reference: The official web page of EMRA; www.epdk.org.tr/mevzuat/diger/yenilenebilir/yenilenebilir.doc

³³ [Law Number: 2827 Ratification Date: 09/08/1983 Enactment Date: 11/08/1983] Reference: The official web page of the Ministry of Environemnt and Forestry; www.cevreorman.gov.tr/yasa/k/2872.doc

- Regulation on Solid Waste Control³⁴
- Regulation on Managed Waste Landfilling³⁵

Step 1.2 Assessment on impact of circumstances – the evaluation is based on 3 relevant aspects, i.e., legislation and policy environment, electricity sales prices, and similar project activities, revealing that the conditions used to determine the baseline emissions in the 1st crediting period are still valid at the time of requesting the renewal of the current crediting period. VVB has assessed the impact of circumstances and it is noted that baseline emission factor needs to be re-calculated which is calculated as per "Tool to calculate the emission factor of an electricity system" version 07.0/12/ and no other impact of circumstances is applicable.

Step 1.3 Assessment whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested – the step has been correctly noted as not relevant for the project activity as the technical life time of the equipment that would have continued to be used in the absence of the project activity exceeds the crediting period for which renewal is requested.

Assessment of the validity of the data and parameters – PD has evaluated validity of the implemented data and parameters and concluded that the Global Warming Potential for CH₄ as well as the ex-ante determined combined margin emission factor for the 2nd crediting period shall be updated for the requested renewal period.

Step 2: Update the current baseline and the data and parameters

Step 2.1: Update the current baseline

The baseline emission has been updated for this crediting period, without re-assessing the baseline scenario, based on the latest approved version (version 19.0) of methodology ACM0001 applicable to project activity taking into account the sectoral policies and circumstances that are applicable at the time of request for renewal of the crediting period.

Step 2.2: Update the data and parameters

PD has updated the emission factor in accordance with "Tool to calculate the emission factor for an electricity system".

Assessment whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested – the step has been correctly noted as not relevant for the proposed project activity as the technical life time of the equipment which is 19 year (As confirmed through technical Specification of the Engine) that would have continued to be used in the absence of the project activity exceeds the crediting period for which renewal is requested.

Assessment of the validity of the data and parameters – PD has evaluated validity of the implemented data and parameters and concluded that combined margin emission factor for the first crediting period was updated for the requested renewal period (second crediting period).

³⁴ [Last updated on 05/04/2005] Reference: The official web page of the Ministry of Environment and Forestry; <http://www.cygm.gov.tr/CYGM/Files/mevzuat/yonetmelik/kaky.doc>

³⁵ [Regulation number 27533 Enactment Date: 26/03/2010] Reference: The official web page of the Ministry of Environment and Forestry; http://www.cygm.gov.tr/CYGM/Files/mevzuat/yonetmelik/Duzenli_Depolama.doc

The updated values for combined margin from 0.7134 tCO₂e/MWh (as per the national EF published by Turkish Republic Ministry of Energy dated 26/12/2025).

Therefore, it has been concluded that there is no need to update the original baseline scenario and is valid for the second crediting period, though data and parameter shall be updated.

3.9 Eligibility Principles Assessment

- **Principle 1. Contribution to Climate Security & Sustainable Development**

The Republic of Turkey is the host country. Turkey has ratified the Kyoto Protocol on 28/05/2009³⁶. Turkish National Focal Point to the UNFCCC is the Ministry of Environment, Urbanization and Climate Change³⁷ (MoEUCC).

The project's contribution towards sustainable development has been addressed based on the following sustainable development aspects:

I. Social well-being:

Implementation of this project enhance local employment during the construction and operation of landfill gas capture and its utilization. As a result, increased job opportunities and project trade activities partially eliminated local poverty and unemployment. As a contribution of the Project to the region's welfare, the electricity consumption in the region is increased by local electricity production, which also contributes to decreasing distribution losses.

II. Economic well-being:

Implementation of the project will accelerate the growth of the LFG capture and its utilization projects. Other entrepreneurs, irrespective of the sector, are encouraged to invest in this sector. It also assists in reducing Turkey's increasing energy deficit and diversify the electricity generation mix while reducing import dependency. Importantly, rural development is maintained in the areas around the project site by providing infrastructural investments to these Onsite areas.

III. Environmental well-being:

The project activities replace the grid electricity, which comprises different fuel sources causing greenhouse gas emissions. By substituting in the consumption of these fuels, it contributes to the conservation of water, soil, flora, and faunas. It transfers these natural resources and the additional supply of these primary energy sources to future generations. In the absence of the project activity, the amount of electricity that would have been generated from the power plants connected to the grid shall be most of which are based on fossil fuels prevalent in the baseline scenario. Thus, the Project is replacing the greenhouse gas emissions (CO₂, CH₄) from extraction, processing, transportation, and burning of fossil fuels for power generation connected to the national grid.

³⁶ <https://unfccc.int/node/61221>

³⁷ <https://iklim.gov.tr/en/coordination-commity-of-climate-change-adaptation-i-76>

IV. Technological well-being:

Implementation of the project contributes to the broader deployment of the technology at a local and national level. It demonstrates the viability of the technology that supports improved energy security, alternative sustainable energy, and renewable energy industry development. This will also strengthen the pillars of the Turkish electricity supply based on ecologically sound technology.

Principle 2: Safeguarding Principles

The Safeguarding principles assessment is as below:

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
Principle 1: Human Rights	1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights. 2. The Project shall not discriminate with regards to participation and inclusion.	No	The VVB further verified consistency with national legal safeguards applicable in Turkey, which incorporate international human rights obligations into domestic law, including Turkey's commitment to the United Nations human rights framework and the Universal Declaration of Human Rights³⁸. 2. The VVB confirms that participation in Project activities is not restricted on the basis of gender, ethnicity, religion, political opinion, or other protected characteristics.	Not applicable
Principle 2: Gender Equality	1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women	No	1. The VVB verified that the Project does not directly or indirectly result in adverse impacts on gender equality or the situation of women. This was cross-checked through a review of project activity description, stakeholder consultation records, and employment	Not applicable

³⁸ <https://www.anayasa.gov.tr>

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
	2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work 3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks 4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)		practices, with particular attention to access to opportunities, participation, and potential differential impacts on women. 2. The VVB assessed the Project's compliance with principles of non-discrimination, equal treatment, and equal pay for equal work by reviewing the employment records, as well as Turkey's labor legislation ³⁹ to confirm consistency with legally mandated equal pay and non-discrimination requirements. 3. The VVB verified that assessment was conducted with reference to nationally recognized strategies ⁴⁰ and commitments on gender equality to identify potential risks and confirm that no project-specific gender risks were identified during the assessment. 4. The VVB reviewed stakeholder consultation records to determine whether expert stakeholder input on gender issues was required for the Project. Based on the nature, scale, and location of Project	

³⁹ <https://natlex.ilo.org>

⁴⁰ <https://www.tarimorman.gov.tr>

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
			activities, and the absence of identified gender-specific risks, no dedicated expert stakeholder consultation on gender equality was deemed necessary.	
Principle 3 – Community Health, Safety and Working Conditions	1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	The project leads to safe working condition and improvement in health as it will replace coal as fuel with LFG which is clean and safe. Turkey has ratified ILO convention 155 and about work safety and precautions. VVB confirmed through the below web link and also during interview with PD representatives and stakeholders https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/occupational-safety-and-health/WCMS_356966/lang-en/index.htm	Not applicable
Principle 4 – Sites of Cultural and Historical Heritage,	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)?	No	Not applicable	Not applicable
Principle 4.2: Forced Eviction	Does the Project require or cause the	No	Not applicable	Not applicable

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
and Displacement	physical or economic relocation of peoples (temporary or permanent, full or partial)?			
Principle 4.3: Land Tenure and Other Rights	Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	Not applicable	Not applicable
Principle 5 – Corruption	The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	Yes	The project does not involve any kind of corruption. Turkey is a party to United Nation Convention against Corruption since 2006; http://ua.mfa.gov.tr/detay.aspx?15042	Not applicable
Principle 6.1 – Labour Rights	1. The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. 2. Workers shall be able to establish and	No	1. this principle was cross-checked against national labour and occupational health and safety legislation applicable in Turkey ⁴¹ , as well as alignment with the principles embedded in the International Labour Organization (ILO) fundamental conventions. 2. VVB verified that the PD does not impose restrictions on workers' rights to freedom of association or collective	Not applicable

⁴¹ <https://natlex.ilo.org>

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
	join labour organisations. 3. Working agreements with all individual workers shall be documented and implemented. These shall at minimum comprise: (a) Working hours (must not exceed 48 hours per week on a regular basis), AND (b) Duties and tasks, AND (c) Remuneration (must include provision for payment of overtime), AND (d) Modalities on health insurance, AND (e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND (f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave.		organisation, which is as per the Article 51 of the Constitution of the Republic of Turkey⁴². 3. The VVB confirmed that individual working arrangements are documented and implemented in line with national labour law⁴³.	

⁴² <https://www.anayasa.gov.tr>

⁴³ <https://turkishlaborlaw.com>

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
	4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.		5. The VVB reviewed Project-level provisions related to occupational health and safety, including the availability of appropriate work equipment, worker training measures, and procedures for accident documentation and incident reporting. Emergency preparedness and response measures were also assessed for consistency with national requirements⁴⁴.	
Principle 6.2 Negative Economic Consequences	1. Does the project cause negative economic consequences during and after project implementation?	No	The project does not involve any negative impacts and no any potential risk to local economy. The project leads to economic development of the local area by means of generating employment ^{10/} opportunities for local people either directly or indirectly.	Not applicable
Principle 7.1: Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	On the contrary, the implementation of the Project results in positive environmental outcomes by enabling the generation of renewable (green) energy, thereby displacing electricity that would otherwise be produced	Not applicable

⁴⁴ <https://www.ilo.org>

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
			from fossil fuel-based sources. As a result, the Project contributes to a measurable reduction in greenhouse gas (GHG) emissions compared to the applicable baseline scenario.	
Principle 7.2: Energy Supply	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The Project plant may occasionally draw electricity from the local grid for auxiliary and operational requirements. However, the quantity of grid electricity consumed is minimal when compared to the total amount of renewable (green) energy generated by the Project. This was done by reviewing the monitored data on electricity generation and auxiliary power consumption and confirmed that grid electricity usage represents a marginal share of total energy flows associated with the Project. This limited consumption does not materially affect the Project's net renewable energy output or the calculated greenhouse gas emission reductions.	Not applicable
Principle 8.1: Impact on natural water patterns and flow	Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of	No	VVB confirmed through remote interviews with stakeholders that there are no protected aquifers close to the plant. No lakes, streams are located in the vicinity of the plant either.	Not applicable

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
	aquatic connectivity or water scarcity?			
Principle 8.2: Erosion and/or water body stability	1. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to question 2. 2. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	The project is being implemented in a proper way (by considering the concerns indicated via the entire principle 4.2.2 Erosion and/or Water Body Instability): There is no interruption to the plant hydrological system in a landfill Gas recovery (LFG) plant. Also, during the site inspection, VVB has verified the waste will be covered with soil to block methane emissions to the atmosphere to provide sufficient containment and prevent air or rainwater to get into the waste. This cover will include clay, sand and soil layers for erosion control and plant growth.	Not applicable
Principle 9.1: Landscape modification and soil	Does the Project involve the use of land and soil for production of crops or other products?	No	The project is being implemented in a proper way (by considering the concerns such as temporary alteration of land, Disturbance of existing access patterns, Soil erosion & contamination, Overloading and spillage etc.) via the entire principal Landscape Modification and Soil): Only potential impact to soil would be observed due to construction activities of the project, and these negligible impacts are not	Not applicable

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
			permanent. Furthermore, there is an access road to the project area so that there is no problem in accessing the area. The necessary attention to be paid to the speed limits of the trucks and the material inside the trucks are covered. Trucks to be loaded in line with the axle load and is not be overloaded, the top 10% of the material to be moisturised.	
Principle 9.2: Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The project is being implemented in a proper way (by considering the concerns indicated via the entire principal Vulnerability to Natural Disaster): The project area is not a place to specific extreme climatic conditions and harmful natural events such as earthquake.	Not Applicable
Principle 9.3: Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The project is renewable energy technology (LFG utilization technology). The Project not be negatively impacted by the use of genetically modified organisms or GMOs. Thus this section is Not Applicable	Not Applicable

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
Principle 9.4: Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	During Remote audit, PD representative confirmed that during the crediting period, the Project Activity produces domestic waste due to employee but is collected appropriately. Also, waste oil that is generated due to operation of turbines and is collected and disposed following related regulations and precautions defined by the laws and the Municipality. Moreover, wastewater generated by the employee is collected and disposed appropriately following relevant host country regulations ⁴⁵ .	Wastewater generated at the plant is regularly collected by authorised vacuum trucks. As a result, no direct discharge of plant-generated wastewater occurs. Solid household waste is collected in designated garbage bins. Photographic evidence of these bins are provided to monitor that solid waste is not disposed of in an uncontrolled manner.
Principle 9.5: Hazardous and Non-hazardous Waste	Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The proposed project activity is a renewable energy project and doesn't involve any hazardous chemicals & other materials. the host party has its credible legislation "Health and Occupational	All relevant legal building codes will be applied appropriately ⁴⁶ .

⁴⁵ <https://webdosya.csb.gov.tr>

⁴⁶ <http://www.resmigazete.gov.tr/eskiler/2012/06/20120630-1.html>

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
			Safety Regulation". Regulation could be found under this link too: http://www.resmigazete.gov.tr/eskiler/2012/06/20120630-1.html	
Principle 9.6: Pesticides and fertilizers	Will the Project involve the application of pesticides and/or fertilisers?	No	NA	Not Applicable
Principle 9.7: Harvesting of forests	Will the Project involve the harvesting of forests?	No	The project is renewable energy technology (LFG capture and utilization) power generation. The project activity does not involve any harvesting of forests. Thus this principle is Not Applicable.	Not Applicable
Principle 9.8: Food	Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project is renewable energy technology (LFG capture and utilization) power generation. The Project does not modify the quantity or nutritional quality of food available. Thus this principle is Not Applicable	Not Applicable
Principle 9.9: Animal Husbandry	Will the Project involve animal husbandry?	No	The project is being implemented in a proper way (by considering the concerns indicated via the entire principle 4.3.9 Animal husbandry): The project does not involve any operation that disrupt husbandry and agriculture in the region.	Not Applicable
Principle 9.10: High Conservation Value Areas and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical	No	NA	Not Applicable

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
	habitats, landscapes, key biodiversity areas or sites identified?			
Principle 9.11: Endangered Species	1. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR 2. Does the Project potentially impact other areas where endangered species may be present through trans boundary affects?	No	NA	Not Applicable

The safeguarding principles relevant to the project activity are justified by PD based on supporting web links, references wherever applicable.

These safeguarding principles assessment is validated through references given by PD during the Remote audit.

The SDG goals are also described below:

SDG Indicator	Assessment of Methodological choices/approaches for estimating the SDG outcome
SDG 7 –Affordable and Clean Energy: Electricity produced and consumed.	Measurement Method: Electricity produced and supplied to the grid is monitored through energy meter. Monthly protocols will be signed by project developers and grid operator and stored. The amount of electricity produced by the project activity will be monitored directly at the engines. QA/QC Process: This parameter is monitored monthly, and value of parameter is cross checked with invoices. The meters are calibrated on regular frequency in every 10 years as per the Paragraph b) of the Article 9 of the 'Regulation of Metering and Testing of Metering Systems'⁴⁷

⁴⁷ http://www.sanayi.gov.tr/download/osgm/olcu_aleleri_muayene_yonetmelik.zip (page 2)

SDG Indicator	Assessment of Methodological choices/approaches for estimating the SDG outcome
	(Regulation) of Ministry. Relevant SDG Target: 7.2 - By 2030, increase substantially the share of renewable energy in the global energy mix. Corresponding indicator: Total Electricity produced (Renewable)
SDG 11 – Sustainable Cities and Communities: Municipal waste used for electricity generation.	Measurement Method: Each garbage truck of MSW which carries municipal waste and is weighed on the weighbridge^{24/} and printed receipts^{24/} are filed at the entrance of the LFG project site. Data by truck plate is also recorded and aggregated monthly to follow up the waste entered in the project site. QA/QC Process: This parameter is based on records, data and no QA/QC procedure required. The VVB confirmed this parameter during remote interviews with employees. Relevant SDG Target: 11.6.1 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management. Corresponding indicator: 1,694,779 tons of municipal waste is estimated for the complete 5-year crediting period.
SDG 13 – Climate Action: Emission reductions in tCO₂e from the project activity. Air Quality (emissions other than GHGs)	Measurement Method: The emission reduction parameter is calculated as product of net electricity supplied to grid and grid emission factor calculated as considering the EPIAS records^{8/} for the net electricity generated (37,440 MWh/year) and the emission factor for the grid, 0.4459 tCO₂/MWh, (for the second crediting period) which is calculated value using UNFCCC Tool – 07 version 07.0, which results average annual estimated emission reductions of 114,762 tCO₂/year. This is in line with Tool 07 - "Tool to calculate the emission factor for an electricity system, version 07"^{15/}. The emission reductions are calculated^{3/} as per previously registered PDD, corresponding RCP PDD and as per methodology requirement. QA/QC Process: This parameter is calculated, and no any QA/QC procedure required. Relevant SDG Target: 13.2: Integrate climate change measures into national policies, strategies and planning Corresponding indicator: Total greenhouse gas emissions per year

SDG Impact Tool Assessment

Validation team has checked the SDG Impact tool^{3/} and found that PD has correctly mentioned all the above SDGs and its calculation details. The same are found consistent in PDD (RCP)^{2/}.

- **Principle 3: Stakeholder Inclusivity**

The project is applying for the renewal of the crediting period i. e. second crediting period from 01/07/2024 to 30/06/2029. However, it shall be noted that PD has applied for deviation seeking for the extension of design certification renewal submission deadline to the registry which was approved on 12/09/2025 with DEVRQ-211. Therefore, the last date of submission to the GS registry is 12/03/2026. Also, the reassessment of stakeholder's inclusivity not required.

- **Principle 4: Demonstration of real outcomes**

The Sustainable monitoring plan is described below:

SDG Parameter/ Safeguarding principle	Indicator	Monitoring
SDG 7: Affordable and Clean Energy	Net Electricity Quantity to Turkish national grid delivered by the project (MWh)	For the purpose of monitoring and recording all GHG-related information, a responsible person has been designated by SEKAY A.Ş., operating under the direct supervision of the Managing Director, wherein relevant data are collected, recorded, and securely stored for archiving and future verification. Defined roles, responsibilities, and QA/QC procedures are implemented for project management and monitoring activities, with related duties integrated into routine operations to ensure data continuity and high data quality. Monitoring data are retained in dedicated records which are EPIAS/TEIAS records ^{8/} . Measuring frequency is hourly and readings monthly.
SDG 11 – Sustainable Cities and Communities	Municipal waste used for electricity generation.	Under the implemented project activity, municipal solid waste is routinely collected by municipal compactor trucks and delivered to the SEKAY landfill gas (LFG) project site. As a key monitoring control, each incoming waste vehicle is weighed at the site weighbridge, and printed weighment receipts are generated and retained as primary source records. The total amount of waste is continuously measured and the data is aggregated at least annually. Maintenance and calibration of weighbridges ^{16/} is carried out according to the instructions of the manufacturer or legal requirements.
SDG 13: Climate Action	Emission Reductions	The emission reduction calculation will be done as per the formula mentioned in the PDD ^{2/} . As the parameter is subjected to monitoring, the same will be checked during the verification of the project activity.

Principle 5: Financial Additionality & Ongoing Financial Need

The project activity qualifies as auto additional; therefore, an investment analysis was not required and was not conducted.

Under conformance with applicable GS4GG principles and requirements guidelines for demonstrating ongoing financial needs (OFN) for a registered GS project activity at the time of its design certification renewal⁴⁸, an OFN analysis is sufficiently and appropriately provided (enclosed to the updated GS4GG PDD) by the project developer CEV Marmara Enerji Üretim San. ve Tic. Ltd. Şti.

As confirmed by the Applus+ Certification's assessment team, the main objective of the performed OFN analysis is to demonstrate that revenues derived Gold Standard Certification for the new and last GS crediting period of the GS project activity under GS4GG are material and relevant to its ongoing sustainability.

As outlined in the updated GS4GG PDD, the project developer Sakarya Entegre Katı Atık Yönetimi Anonim Şirketi demonstrated in section B.5.2 of PDD, that GS project activity indeed faced operational expenses (signed OPEX breakup from project developer based on annual expenses occurred) are higher which leads to discontinuation without the continuation of its carbon revenues under GS4GG along its new and last crediting period under GS4GG (in addition to so far promoted carbon revenues)) by outlining the overall unfavourable (negative) economic/financial performance of the operation of the GS project activity (under its gradual/phased implementation schedule) even when the revenues associated to so far GS4GG carbon revenues are considered.

VVB has reviewed the financial data provided by the Project Developer regarding the anticipated carbon credit revenues and operational expenditures^{28/}. The quantification of the operational expenses are as follows:

Carbon Credit Revenue Calculation: The project's anticipated annual generation of 120,000 GS VERs, when multiplied by the assumed carbon market price of 2.0 USD per GS-VER (section B.5.2 of PDD RCP), results in an estimated annual carbon credit revenue of 240,000 USD. (120,000 GS VERs × 2.0 USD/GS VER=240,000 USD).

However, the assessment team reviewed publicly available data⁴⁹ and found that the most recent credit rate for LFG projects is approximately \$5.80⁵⁰. Therefore, the price of \$2.00 considered by the Project Developer (PD) was found to be minimum and acceptable to the assessment team.

⁴⁸ As per applicable GS4GG rules and procedures, registered GS projects requesting design renewal are requested to demonstrate Ongoing Financial Need (OFN) at its Design Certification Renewal phase. As part of the OFN demonstration,

“(…) the project shall provide a qualitative narrative, supported by an overview of project finances, that demonstrates how the finance derived Gold Standard Certification is material to the ongoing sustainability of the Project. The narrative may include, but not limited to the following:

- Information highlighting the key categories and amounts or relative proportions (%) of project income and outgoings, including the relative proportion of certification related cost and revenue.
- Description on how finance derived Gold Standard Certification contributes to or is being used to sustain or enhance the project. Where no revenue is realized from Gold Standard certification during a given period, this would be considered a FAR for the next Issuance.”

⁴⁹ https://www.regreener.earth/blog/voluntary-carbon-market-update?utm_source

⁵⁰ https://www.regreener.earth/blog/voluntary-carbon-market-update?utm_source

Carbon Credit Revenue as a Percentage of OPEX: The annual carbon credit revenue of 240,000 USD was compared to the project's anticipated annual operational expenditures^{/28/} (OPEX) of 3,233,000 USD. The calculation shows that the carbon credit revenue constitutes approximately 7.42% (i.e. $(240,000 \text{ USD} / 3,233,000 \text{ USD}) \times 100 = 7.42\%$) of the total OPEX. This calculation is also confirmed to be mathematically consistent. Moreover, the assessment team reviewed publicly available source⁵¹ for operational expenses in the host country, Turkey. The approximate cost of \$550,420 USD was found to be comparable to market rates and is therefore considered acceptable.

Additionally, PD has now demonstrated electricity sale's prices for the year 2025^{/08/}, which has been further checked through submitted sales invoices^{/08/} and found that average cost of 58 USD/MWh approx which is after the end of YEKDEM fixed in tariff scheme⁵², expired by dt. 30/06/2021.

Following the expiry of the YEKDEM support mechanism, the project transitioned from a fixed feed-in tariff of 133 USD/MWh (based on law no 53463⁵³) to full exposure to market-based electricity pricing. The resulting revenue volatility and material decline in average realized prices have adversely impacted financial performance, indicating a need for supplementary carbon finance to sustain operational viability for the current project activity.

Based on the verification of the project documentation, the VVB confirms that the stated financial calculations are arithmetically accurate. The projected carbon credit revenue figures are consistent with the assumptions regarding the volume of GSVERs and the assumed market price.

Further, VVB noted that the PD is carrying out periodic verifications and the GS revenue plays a role in operational expenses^{/28/} of the project activity which has been found acceptable.

VVB has assessed the Project Developer's declaration regarding the receipt of Official Development Assistance (ODA)^{/21/}. The PD has formally declared that the project activity has not received any ODA funding. The VVB's assessment included a review of the project's financial records as per previous registered PDD and registered documents⁵⁴. Based on review & interviews during the onsite inspection, no evidence of any ODA contribution was identified. The VVB therefore confirms that, PD's declaration is consistent with the available evidence and that the project is in compliance with the Gold Standard for the Global Goals (GS4GG) requirements regarding ODA.

3.10 Calculation algorithm and/or formula used to determine emission reductions

The GS4GG PDD (RCP) of the project activity is checked by the assessment team and found that approved CDM methodology ACM0001 Version 19.0^{/6/} is used for the renewal of crediting period validation which is in line with the GS4GG for Global Goals "Principles and Requirements" Version 2.1^{/13/} which recommends the application of the latest version of the applied methodology along

⁵¹ https://lutpub.lut.fi/bitstream/handle/10024/144083/Effective%20LFG%20management%20with%20a%20case%20study.pdf?sequence=1&utm_source=

⁵² https://iea.blob.core.windows.net/assets/cc499a7b-b72a-466c-88de-d792a9daff44/Turkey_2021_Energy_Policy_Review.pdf?utm_source=

⁵³ <https://mevzuat.gov.tr/mevzuat?MevzuatNo=5346&MevzuatTur=1&MevzuatTertip=5>

⁵⁴ <https://assurance-platform.goldstandard.org/projects/GS6193>

with the conservative argument of the approach followed. VVB confirms that the project activity is in line with the latest versions of the methodologies.

The formula used in the GS4GG PDD (RCP) was used for the calculation of emission reductions and same is found to be correct. Hence emission reduction calculation at this time of validation (RCP) is conservative and appropriate.

Assessment team checked net emission reductions for the project activity are calculated^{/3/} in line with the applied methodologies.

LFG Capture and its Utilization for Power Generation as per ACM0001 Version 19.0

Baseline Emissions

The baseline emissions are determined according to equation (2) and comprise the following sources:

1. Methane emissions from the SWDS in the absence of the project activity;
2. Electricity generation using fossil fuels or supplied by the grid in the absence of the project activity;
3. Heat generation using fossil fuels in the absence of the project activity; and
4. Natural gas used from the natural gas network in the absence of the project activity.

$$BE_y = BE_{CH_4,y} + BE_{EC,y} + BE_{HG,y} + BE_{NG,y} \quad \text{Equation (2)}$$

Where:

BE_y	=	Baseline emissions in year y (t CO ₂ e/yr)
$BE_{CH_4,y}$	=	Baseline emissions of methane from the SWDS in year y (t CO ₂ e/yr)
$BE_{EC,y}$	=	Baseline emissions associated with electricity generation in year y (t CO ₂ /yr)
$BE_{HG,y}$	=	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)

Project activity does not include heat generation and natural gas use. Therefore;

$$BE_{HG,y} = 0$$

$$BE_{NG,y} = 0$$

Thus, baseline emissions are;

- $BE_{CH_4,y}$ = Emissions of methane from the SWDS,
- $BE_{EC,y}$ = Emissions associated with electricity generation

a. Emissions of methane from the SWDS

As per the paragraph 30 of ACM0001; 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 (such as due to regulations). In addition, the effect of methane oxidation that is present in the baseline and absent in the project is taken into account:

$$BE_{CH_4} = ((1 - OX_{top_layer}) \times F_{CH_4,PJ,y} - F_{CH,BL,y}) \times GWP_{CH_4} \quad \text{Equation (3)}$$

Where:

$BE_{CH_4,y}$	=	Baseline emissions of methane from the SWDS in year y (t CO ₂ e/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 CH ₄ /yr)
$F_{CH_4,BL,y}$	=	Amount of methane in the LFG that would be flared in the baseline in year y (t CH ₄ /yr)
GWP_{CH_4}	=	Global warming potential of CH ₄ (t CO ₂ e/t CH ₄)

Since there is no regulatory or contractual requirement to destroy methane in the baseline;

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

An ex-ante estimate of $F_{CH_4,PJ,y}$ is required to estimate baseline emission of methane from the SWDS (according to equation (4)) in order to estimate the emission reductions of the proposed project activity in the PDD. It is determined as follows:

$$F_{CH_4,PJ,y} = \rho_{PJ} \times BE_{CH_4,SWDS,y} / GWP_{CH_4} \quad \text{Equation (4)}$$

Where:

$F_{CH_4,PJ,y}$	=	Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH ₄ /yr)
$BE_{CH_4,SWDS,y}$	=	Amount of methane in the LFG that is generated from the SWDS in the baseline scenario in year y (t CO ₂ e/yr)
ρ_{PJ}	=	Efficiency of the LFG capture system that will be installed in the project activity

GWP_{CH4} = Global warming potential of CH_4 (t CO_2e /t CH_4)

The amount of methane in the LFG generated from disposal of waste at the SWDS is calculated based on a first order decay (FOD) model in line with the methodological tool "Emissions from solid waste disposal sites", V.08.1. The model differentiates between the different types of waste j with respective constant decay rates (k_j) and fractions of degradable organic carbon (DOC_j).

$$BE_{CH4,SWDS,y} = \varphi_y \times (1 - f_y) \times GWP_{CH4} \times (1 - OX) \times (16/12) \times F \times DOC_{f,y} \times MCF_y \times \sum_{x=1}^y \sum_j (W_{j,x} \times DOC_j \times e^{-k_j \times (y-x)} \times (1 - e^{-k_j}))$$

Equation (5)

- $BE_{CH4,SWDS,y}$ = Baseline, project or leakage methane emissions occurring in year y generated from waste disposal at a SWDS during a time period ending in year y (t CO_2e /yr)
- x = Years in the time period in which waste is disposed at the SWDS, extending from the first year in the time period ($x = 1$) to year y ($x = y$)
- y = Year of the crediting period for which methane emissions are calculated (y is a consecutive period of 12 months)
- $DOC_{f,y}$ = Fraction of degradable organic carbon (DOC) that decomposes under the specific conditions occurring in the SWDS for year y (weight fraction) (0.5)
- $W_{j,x}$ = Amount of solid waste type j disposed or prevented from disposal in the

φ_y	=	Model correction factor to account for model uncertainties for year y (0.75)
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
GWP_{CH4}	=	Global Warming Potential of methane
OX	=	Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste) (0.1)
F	=	Fraction of methane in the SWDS gas (volume fraction) (0.5)
MCF_y	=	Methane correction factor for year y (1)
DOC_j	=	Fraction of degradable organic carbon in the waste type j (weight fraction)
k	=	Decay rate for the waste type j (1 / yr)
J	=	Type of residual waste or types of waste in the MSW

Therefore;

Year	$BE_{CH4, SWDS,y}$	GWP_{CH4}	η_{PJ}	$F_{CH4,PJ,y}$
	(tCO ₂ e)	(tCO ₂ e/tCH ₄)	%	(tCH ₄)
2024	126.144	28	75%	3.379
2025	134.007	28	75%	3.589
2026	141.669	28	75%	3.795
2027	149.176	28	75%	3.996
2028	156.570	28	75%	4.194
2029	163.887	28	75%	4.390

Additionally, "Project emissions from flaring" (V04.0) tool will be applied to determine the project emissions due to the residual gas.

According to the tool the project emissions calculation procedure is given in the following steps:

STEP 1: Determination of the methane mass flow of the residual gas

The residual gas is monitored continuously in normal conditions (Nm³/h) every 10 min for 24/7. The mass flow of methane in the residual gas (kg/m) is calculated

$$F_{CH4, RG, t} V_{t, db} * v_{CH4, wb, t} * \rho_{CH4, n} \quad \text{(Equation 6)}$$

Where;

$F_{CH_4, t}$	=	Mass flow of greenhouse gas (CH_4) in the gaseous stream in time interval t (kg gas/h)
$V_{t, wb}$	=	Volumetric flow of the gaseous stream in time interval t on a dry basis (m^3 dry gas/h)
$V_{CH_4, t, wb}$	=	Volumetric fraction of greenhouse gas CH_4 in the gaseous stream in a time interval t on a dry basis (m^3 gas $/m^3$ dry gas)
$\rho_{CH_4, n}$	=	Density of greenhouse gas CH_4 in the gaseous stream at normal conditions t (kg gas i/m^3 gas i)

STEP 2: Determination of the flare efficiency

The project activity will use enclosed flare and default value will be applied to determine the flare efficiency Therefore, Option A is selected. Thus;

- (a) The temperature of the flare (TEG,m) and the flow rate of the residual gas to the flare (FRG,m) is within the manufacturer's specification for the flare ($SPEC_{flare}$) in minute m ; and
- (b) The flame is detected in minute m ($Flame_m$).

Otherwise $\eta_{flare, m}$ is 0%.

Since the enclosed flare could be define as low height flare the efficiency is adjusted 10 percentile points less form the default value:

$\eta_{flare, m}$	80%
-------------------	-----

STEP 3: Calculation of project emissions from flaring

Project emissions from flaring are calculated as the sum of emissions for each minute m in year y , based on the methane mass flow in the residual gas ($F_{CH_4, RG, m}$) and the flare efficiency ($\eta_{flare, m}$), as follows:

$$PE_{flare, y} = GWP_{CH_4} \times \sum_{m=1}^{525600} F_{CH_4, RG, m} \times (1 - \eta_{flare, m}) \times 10^{-3} \quad \text{Equation (7)}$$

$$PE_{flare, y} = GWP_{CH_4} \times \sum_{m=1}^{525600} F_{CH_4, RG, m} \times (1 - \eta_{flare, m}) \times 10^{-3} \quad \text{Equation (8)}$$

Where;

$PE_{flare, y}$ = Project emissions from flaring of the residual gas in year y (tCO_{2e})

GWP_{CH_4} = Global warming potential of methane valid for the

$$FCH_{4, RG, m} = \text{commitment period (tCO}_2\text{e/tCH}_4\text{)}$$

$$= \text{Mass flow of methane in the residual gas in the minute m (kg)}$$

$$\eta_{flare, m} = \text{Flare efficiency in minute m}$$

Baseline emissions associated with electricity generation ($BE_{EC, y}$);

The baseline emissions associated with electricity generation in year y ($BE_{EC, y}$) shall be calculated using the "Methodological tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation". When applying the tool:

The electricity sources k in the tool correspond to the sources of electricity generated identified in the selection of the most plausible baseline scenario; and

$EC_{BL, k, y}$ in the tool is equivalent to the net amount of electricity generated using LFG in year y ($EG_{PJ, y}$).

Taking into account the approach provided by the tool, baseline emissions are then calculated using the generic approach based on the quantity of electricity dispatched into the National Grid, an emission factor for electricity generation and a factor to account for transmission losses, as follows:

In the baseline scenario, the electricity amount produced by the biogas plant would be consumed by national grid which is operated by fossil fuels. As baseline emissions for electricity and thermal energy consumed in the absence of the project activity for operating all AWMs facilities is considered zero, the equation is simplified as follows:

$$BE_{\frac{elec}{heat}, y} = EG_{d, y} \times CEF_{grid} \quad (\text{Equation 9})$$

Where:

$$BE_{\frac{elec}{heat}, y} = \text{Baseline CO}_2 \text{ emissions from electricity and/or heat used in the baseline, in tCO}_2\text{e/year}$$

$$EG_{d, y} = \text{Amount of electricity generated utilizing the biogas collected during project activity and exported to the grid during the year y (MWh)}$$

$$CEF_{grid} = \text{Carbon emissions factor for the grid in the project scenario (tCO}_2\text{e/MWh)}$$

Emission Factor calculation (CEF_{grid})

According the "Tool to Calculate the Emission Factor for an Electricity System v 07.0.0". Option 1 has been selected.

Option 1: A delineation of the project electricity system and connected electricity systems published by the DNA or the group of the DNAs of the host country(ies), In case a delineation is provided by a group of DNAs, the same delineation should be used by all the project developers applying the tool in these countries:

For the emission factor, the Turkish Ministry of Energy and Natural Resources publication³², which indicates Turkey's National Electric Grid Emission Factor for the year 2020, was used. The publication includes calculated Emission Factor values that are Operating Margin (OM), Growth Based Margin (Build Margin-BM) and Combined Margin (CM) Emission Factors for the relevant year with the usage of the IPCC's Clean Development Methodology Tool 07-v07.0. For this calculation, information regarding the data set is given below in detail;

- TEİAŞ Turkey's electricity generation-consumption and loss statistics,
- Common prepared report under Turkey's National Greenhouse Gas Inventory Reporting Format. - Common Reporting Format (CRF) tables for electricity generation (1.A.1.a.i) emission values
- Chronological order of power generation plants from TEİAŞ Load Dispatch Department with commissioning dates, plant names, fuel types, installed power values, electricity generation for the calculated year
- Checking off Volunteers from the websites of Gold Standard (GS), Verified Carbon Standard (VCS) and Global Carbon Council for the ownership status of the carbon reduction certificate and,
- From Clean Development Mechanism (CDM) Tool 009- V03.0, Power plant efficiency figures are used

According to this publication;

The national EF is published by Turkish Republic Ministry of Energy. The combined margin is as 0.7134 tCO₂/MWh which is as per the latest official emission factor of Turkey⁵⁵ that can be used in the projects depending on the project type published by the Ministry of Energy and Natural Resources.

It is defined that Combined margin emissions calculated by source type can be used in the greenhouse gas emission (GHG) type reduction calculations to be achieved by generating renewable energy electricity generation.

The estimated value obtained for BE_{EC,y} is **16,693 tCO₂/yr (Annual Average)**.

$$BE_y = BE_{CH4,y} + BE_{EC,y}$$

Year	BE _{CH4,y}	BE _{EC,y}	BE _y
	(tCO ₂ e/yr)	(tCO ₂ e/yr)	(tCO ₂ e/yr)
2024	42,574	8,347	50,920

⁵⁵

https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klım/%C4%B0klımDe%C4%9Fi%C5%9Fikli%C4%9Fi/EmisyonFaktorleri/TEUVETN_Emisyon_Fakt%C3%B6rleri_Bilgi_Formu.pdf

2025	90,455	16,693	107,148
2026	95,626	16,693	112,319
2027	100,694	16,693	117,387
2028	105,685	16,693	122,378
2029	55,312	8,347	63,658
TOTAL	490,345	83,465	573,810
5 YEARS AVERAGE	98,069	16,693	114,762

3. Project Emissions

According to the methodology ACM0001 (V19.0) project emissions are calculated as follows:

$$PE_y = PE_{EC,y} + PE_{FC,y} + PE_{DT,y} + PE_{SP,y} + PE_{flare,y} \quad \text{Equation (10)}$$

Where;

PE_y	=	Project emissions in year y (t CO ₂ /yr)
$PE_{EC,y}$	=	Emissions from consumption of electricity due to the project activity in year y (t CO ₂ /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)
$PE_{flare,y}$	=	Project emissions from flaring of the residual gas in year y

The project does not include any activities consuming fossil fuels except electricity generation, so $PE_{FC,y}$ will be 0. In addition, the project does not involve the distribution of compressed/liquefied LFG using trucks nor pipelines. Therefore, $PE_{FC,y}$, $PE_{DT,y}$, $PE_{SP,y}$ will be 0. Hence, PE_y is the same with $PE_{EC,y}$.

$PE_{EC,y}$ is determined by "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" as follows:

$$PE_{EC,y} = \sum_j EC_{PJ,j,y} * EF_{EL,j,y} * (1 + TDL_{j,y}) \quad \text{(Equation 11)}$$

Where;

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

As described above Project activity does not include consumption of fossil fuels, distribution of compressed/liquefied LFG and supply of LFG to consumers through a dedicated pipeline. Therefore, the only project emission are emissions from consumption of electricity and flaring of the residual gas due to the project activity. ACM0001 (V19.0)^{6/} refers the methodological tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (V 03.0)" to calculate emissions from consumption of electricity due to the project activity and this tool directs to the methodological tool "Tool to calculate the emission factor for an electricity system (V 07.0)". Additionally, "Project emissions from flaring" (V04.0) tool will be applied to determine the project emissions due to the residual gas. "Tool to calculate the emission factor for an electricity system (V 07.0)" is applied in the above section to calculate the combined margin emission factor of the applicable electricity system for the calculations of baseline emissions. Thus, project emissions can be considered ex post during this monitoring period by subtracting the total electricity consumed from the total electricity generation.

4. Leakage

No leakage effects are accounted for under ACM0001 (V19.0) The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport etc.) are neglected.

2 – SDG7 Affordable and Clean Energy

The amount of the clean energy to be produced and fed in to the grid will be calculated based on the installed capacity and working hours. Even though one spare gas generator would be in reserve for the purpose of substitution of the engine which might be stopped due to malfunction or maintenance issues, to be conservative, it is assumed that the gas engines would operate 8,000 hours (11 months in average) per year and the remaining time would be allocated for maintenance.

Therefore;

$EG_{PJ,y}$ = Delivery amount - Withdrawal amount (Production – Consumption)

Where;

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

The value obtained for the parameter is 187,200 MWh.

3 – SDG11 Sustainable Cities and Communities

Waste projection is calculated based on the:

- Population statistics of previous years data in Sakarya Province
- Proliferation coefficient Ilbank (Bank of Provinces)
- Current waste amount in the landfill.

01/07/2024-31/12/2024	317,236	tons
01/01/2025-31/12/2025	325,802	tons
01/01/2026-31/12/2026	334,598	tons
01/01/2027-31/12/2027	343,632	tons
01/01/2028-31/12/2028	352,910	tons
01/01/2029-30/06/2029	362,439	tons
TOTAL	2,036,618	tons

PD has determined baseline emissions according to the equation (26) of ACM0001 version 19.0:

$$ER_{y,estimated} = BE_y - PE_y$$

Where:

ER_y = Emission reductions in year y (tCO₂e/year)

BE_y = Baseline emissions in year y (tCO₂e/year)

PE_y = Project emissions in year y (tCO₂e/year)

Total baseline emissions are as follows:

Crediting Period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Emission reductions (tCO ₂ e)
01/07/2024-31/12/2024	50,920	0	50,920
01/01/2025-31/12/2025	107,148	0	107,148
01/01/2026-31/12/2026	112,319	0	112,319
01/01/2027-31/12/2027	117,387	0	117,387
01/01/2028-31/12/2028	122,378	0	122,378
01/01/2029-30/06/2029	63,658	0	63,658
Total	573,810	0	573,810
Total number of crediting years	5		
Annual average over the crediting period	114,762	0	114,762

VVB accessed and confirmed the parameters considered ex-ante and ex-post in the current GS PDD (RCP) and the assessment is presented below:

Sr. No.	Data / Parameter	Description	Value	Assessment
1.	GWP_{CH_4}	Global warming potential of CH_4	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.
2.	$\rho_{CH_4, n}$	Density of methane gas at reference conditions	0.716 kg/m ³	The value is applied is default from the applied tool 06: Project emissions from flaring (V 04.0) ^{7/}
3.	$\phi_{default}$	Default value for the model correction factor to account for model uncertainties	0.75 (as per application A)	The value is applied is default from the applied tool 04: Project emissions from flaring (V 08.1) ^{7/}
4.	OX	Fraction of methane that would be oxidized in the top layer of the SWDS in the baseline	0.1	The value is consistent with how oxidation is accounted for in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Vol. 5 Waste, Table 3.2. (https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html) VVB has cross checked the same and found correct.
5.	F	Fraction of methane in the SWDS gas (volume fraction)	0.5	This value is based on 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Vol. 5 Waste, (https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html). The value was cross checked and confirmed.
6.	D_{CH_4}	Density of methane	0.67 kg/m ³	The value is confirmed to be based on value provided in Chapter 4, Fugitive Emissions of "2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories".
7.	$\phi_{default}$	Default value for the model correction factor to account for model uncertainties	0.75	The value is confirmed to based on Tool 04, "Emissions from solid disposal sites" Version 08.1 (Application A)

8.	$DOC_{f,default}$	Fraction of degradable organic carbon (DOC) that can decompose	0.5		This value is based on tool 04: Emissions from IPCC 2006 Guidelines for National Greenhouse Gas Inventories. The value was cross checked and confirmed.																		
9.	$MCF_{default}$	Methane correction factor	1		This value is based on IPCC 2006 Guidelines for National Greenhouse Gas Inventories (https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html). The value was cross checked and confirmed.																		
10.	DOC_j	Fraction of degradable organic carbon (by weight) in waste type j	<table><tr><th colspan="2">Waste type j</th><th>DOC_j (%wet waste)</th></tr><tr><td colspan="2">Wood and wood products</td><td>43</td></tr><tr><td colspan="2">Pulp, paper and cardboard</td><td>40</td></tr><tr><td colspan="2">Food, food waste, beverages and tobacco</td><td>15</td></tr><tr><td colspan="2">Non-food organics⁵⁶</td><td>20</td></tr><tr><td colspan="2">Glass, plastic, metal, other inert</td><td>0</td></tr></table>		Waste type j		DOC_j (%wet waste)	Wood and wood products		43	Pulp, paper and cardboard		40	Food, food waste, beverages and tobacco		15	Non-food organics ⁵⁶		20	Glass, plastic, metal, other inert		0	The values are based on IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Tables 2.4 and 2.5). The value was cross checked and confirmed.
Waste type j		DOC_j (%wet waste)																					
Wood and wood products		43																					
Pulp, paper and cardboard		40																					
Food, food waste, beverages and tobacco		15																					
Non-food organics ⁵⁶		20																					
Glass, plastic, metal, other inert		0																					
11.	k_j	Decay rate for the waste type j	<table><tr><th colspan="2">Waste type j</th><th>Boreal and Temperature (MAT < 20°C)</th><th>WET (MAP/P ET > 1)</th></tr><tr><td rowspan="2">Slowly degrading</td><td>Paper/textiles waste</td><td colspan="2">0.06</td></tr><tr><td>Wood, straw waste</td><td colspan="2">0.03</td></tr></table>		Waste type j		Boreal and Temperature (MAT < 20°C)	WET (MAP/P ET > 1)	Slowly degrading	Paper/textiles waste	0.06		Wood, straw waste	0.03		The values are based on IPCC 2006 Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 3.3) https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html . The value was cross checked and confirmed.							
Waste type j		Boreal and Temperature (MAT < 20°C)	WET (MAP/P ET > 1)																				
Slowly degrading	Paper/textiles waste	0.06																					
	Wood, straw waste	0.03																					

⁵⁶ Non-food organics refer to textiles, garden, yard and park wastes. Therefore a conservative value of 20% has been chosen.

			Moderately degrading	Other (non-food) organic putrescible garden and park waste	0.10	
			Rapidly degrading	Food, food waste, sewage sludge, beverages, and tobacco	0.185	
12.	nPJ	Efficiency of the LFG capture system that is installed in the project activity	75%			The value applied is taken from the feasibility study report ^{5/} of the project activity. Same was checked and confirmed by the VVB.

The Project Developer has submitted a Design Change Request under the Renewal of Crediting Period (RCP) PDD to revise the efficiency of the Landfill Gas (LFG) capture system (ηPJ) from 50%, as stated in the registered PDD, to 75% in the updated RCP PDD.

In the registered PDD, the PD applied a default conservative value of 50% for the efficiency of the LFG capture system. The PD has clarified that this value was used at the time of initial registration due to limited project-specific data availability. Under the RCP PDD, the PD has updated the efficiency value to 75%, supported by the feasibility report for the project activity. The revised value is applied consistently in the updated baseline emission calculations related to methane generation and recovery.

The PD has indicated that the revised efficiency value of 75% is based on project-specific technical design and operational assumptions documented in the feasibility prepared by 3rd party entity "Duru Environmental Technologies and Laboratory Services" dated 02/02/2026. The feasibility report provides an assessment of the expected capture performance of the installed gas extraction system, taking into account:

- Gas collection system design and extraction network configuration
- Use of vertical extraction wells, blowers and vacuum system
- LFG collection and transport infrastructure
- Site conditions and operational control practices

The VVB reviewed the feasibility report prepared by 3rd party entity "Duru Environmental Technologies and Laboratory Services" dated 02/02/2026 and confirmed that the updated efficiency value is supported by the project's technical configuration and expected operational performance.

The VVB assessed whether the change in LFG capture efficiency represents a material design change affecting the baseline and emission reduction estimation. The following aspects were reviewed:

- The updated efficiency value is applied only for the renewal crediting period calculations in the RCP PDD.
- The revised parameter is supported by project-specific documentation (feasibility report) and is not based on arbitrary assumptions.
- The parameter change does not modify the project technology, physical boundary, baseline scenario, or applicability conditions under the applied methodology.
- The update is aligned with the requirement that project-specific values may replace default values where justified and verifiable.

The VVB confirms that the revised value of 75% is reasonable, technically justified, and supported by evidence reviewed during the assessment.

The LFG capture efficiency (η_{PJ}) is a key parameter influencing the estimation of methane captured and combusted/used, and therefore affects the baseline emissions and emission reduction calculations.

The VVB reviewed the updated calculations in the RCP PDD and confirmed that:

- The efficiency value of 75% is consistently applied across all relevant equations and tables.
- The baseline methane generation and recovered methane quantities have been recalculated accordingly.
- The updated calculations remain arithmetically correct and methodologically consistent.

The VVB also confirms that the updated efficiency value is applied transparently and that the justification and source are clearly referenced in the RCP PDD.

Based on the review of the Design Change Request, the feasibility report, and the updated RCP PDD calculations, the VVB concludes that:

- The revision of LFG capture efficiency from 50% to 75% is acceptable,
- The updated value is supported by verifiable project-specific documentation, and
- The change has been correctly reflected in the RCP PDD and associated emission reduction calculations.

Accordingly, the VVB confirms that the Design Change Request regarding the update of the LFG capture system efficiency has been adequately justified and is considered valid for the renewed crediting period.

13.	$\eta_{\text{flare},m}$	Flare efficiency	80%	The value applied is the default value taken from the Tool 06 ^{7/} . Same was checked and confirmed by the VVB.
14.	$F_{CH_4,BL,y}$	Methane emissions that would be captured and destroyed to comply with national or local safety requirements or legal	0	Since there are no legal requirements in Turkey to destroy methane and the LFG was not captured prior to the proposed project activity. VVB has checked National laws and regulations https://www.mevzuat.gov.tr/MevzuatMetin/yonetmelik/9.5.24

		regulations in the year y		128.pdf ^{/14/} and found applied value acceptable.
15.	SPEC _{flare}	Temperature - °C Flow rate m ³ /h Maintenance schedule - number of days	The ones specified on the technical sheet ^{/11/}	This parameter has been cross checked from the Flare datasheet, which is currently not in use as the project does not use any flaring system for the current monitoring period.
15	EF _{grid,CM,y}	Combined Margin CO ₂ emission factor in year y	0.4459 tCO ₂ /MWh	The value is calculated in line with tool 07: Tool to calculate the emission factor for an electricity system, version 07.0 and confirmed.

Ex-post parameters and the relevant information is presented in the following table:

Sr. No.	Data Parameter /	Unit	Value	Description	Observation
1.	LFG _{total,y}	Nm ³	16,636, 902	Total amount of landfill gas captured under Normal Temperature and Pressure in year y	This parameter measures the total amount of landfill gas captured under Normal Temperature and Pressure in year y. It is measured continuously by the flowmeters installed in the plant site; frequency being every minute. Same was checked and verified by VVB by flowmeter records ^{/23/} . Flow meter installed at the project activity are calibrated in every 10 years. The purpose of the data is to calculate baseline and project emissions due to methane avoidance to demonstrate contribution to SDG 13. Further calibration details can be referred under appendix 3 of this report.
2.	LFG _{flare,y}	Nm ³	0	Total amount of landfill gas flared under Normal Temperature and Pressure in year y	This parameter measures the total amount of landfill gas flared under Normal Temperature and Pressure in year y. It is measured continuously by the flowmeters installed in the plant site; frequency being every minute. Same was checked and verified by VVB, by flowmeter records ^{/23/} . Flow meter installed at the project activity are calibrated in every 10 years. The purpose of the data is to calculate baseline and project emissions due to methane

					avoidance to demonstrate contribution to SDG 13. Further calibration details can be referred under appendix 3 of this report.
3.	LFG_{electricity,y}	Nm ³	16,636,902	Total amount of landfill gas combusted in the gas generator under Normal Temperature and Pressure in year y	This parameter measures the total amount of landfill gas captured under Normal Temperature and Pressure in year y. It is measured continuously by the flowmeters installed in the plant site; frequency being every minute. Same was checked and verified by VVB, by flowmeter records ^{/23/} . Flow meter installed at the project activity are calibrated in every 10 years. The purpose of the data is to calculate baseline and project emissions due to methane avoidance to demonstrate contribution to SDG 13. Further calibration details can be referred under appendix 3 of this report.
4.	F_{CH4,RG,m}	tCH ₄ /y	6,582	Mass flow of methane in the residual gas in the minute m (Dry Basis)	This parameter measures the Mass flow of methane in the minute m. It is measured continuously by the flowmeters & gas analysers for each gas generator installed in the plant site; frequency being in real time. Same was checked and verified by VVB, by flowmeter & gas analyser records ^{/23/} . Flow meter and Gas Analyser installed at the project activity are calibrated in every 10 years The purpose of the data is to calculate baseline emissions due to methane avoidance to demonstrate contribution to SDG 13. Further calibration details can be referred under appendix 3 of this report.
5.	W_{CH4}	%	54.43	Methane fraction in the landfill gas	PD will measure methane fraction in the landfill gas continuously by a gas analyzer. The monitoring system works with continuous measurement devices. It is programmed to automatically save hourly values. The gas analyzers are subject to a regular maintenance and testing regime to ensure accuracy. The calibration of the devices is carried out in every 10 years after installation, according to the

					instructions of the manufacturer or legal requirements as provided by the PP. The purpose of the data is to calculate baseline and project emissions due to methane avoidance to demonstrate contribution to SDG 13.
6.	PE_{flare,y}	t CO ₂ e	0	Project emissions from flaring of the residual gas stream in year y	PD will measure Project emissions from flaring of the residual gas stream. The monitoring system works with continuous measurement devices. It is programmed to automatically save hourly values. It is measured continuously by the flowmeters installed in the plant site; frequency being every minute. Same was checked and verified by VVB, by flowmeter records ^{/23/} . Flow meter installed at the project activity are calibrated in every 10 years The purpose of the data is to calculate project emissions due to methane avoidance to demonstrate contribution to SDG 13. Further calibration details can be referred under appendix 3 of this report.
7.	V_{i,t,wb}	m ³ gas i/m ³ dry gas	16,636, 902	Volumetric fraction of greenhouse gas i in a time interval t on a dry basis	PD will measure Volumetric fraction of greenhouse gas. The monitoring system works with continuous measurement devices. It is programmed to automatically save hourly values. It is measured continuously by the flowmeters installed in the plant site; frequency being every minute. Same was checked and verified by VVB, by flowmeter records ^{/23/} . Flow meter installed at the project activity are calibrated in every 10 years The purpose of the data is to calculate baseline emissions due to methane avoidance to demonstrate contribution to SDG 13. Further details can be referred under appendix 3 of this report.
8.	T_{EG,m}	°C	0	Temperature in the exhaust gas of the enclosed flare in minute m	The parameter is measured continuously by the means of thermocouple attached to the flare. The frequency of monitoring and recording is in accordance with the applied methodology and the

					previously registered VCS PD i.e. annually. The purpose of the data is to calculate baseline & project emissions due to methane avoidance to demonstrate contribution to SDG 13. Further details can be referred under appendix 3 of this report.
9.	Operation of the power plant	H	8,000	Operational duration of the power plant	This parameter describes the operational duration of the power plant, which was cross checked by the VVB against the EPIAS records ^{9/} & the datalog system ^{20/} which was checked during the remote audit. The monitoring frequency is annual. The values applied is 8000 hrs.
10.	TDL_{k,y}	%	11.2%	Average technical transmission and distribution losses for providing electricity to source k in year y	The grid company calculates the TDL factor monthly and will use the factor directly for the creation of the monthly reports. The value is sourced from Türkiye Electricity Distribution Sector Report, page 21; https://www.tedas.gov.tr/FileUpload/MediaFolder/ff204253-90d1-4560-8946-cdc529dceff2.pdf and same has been verified by VVB.
11.	EG_{Pj,y}	37,440	MWh/y	Electricity meter measurement at project site	The generated electricity is measured continuously by electricity meters operated by the Turkish grid company who is the owner of the meter. The amount is determined by a distance reading system, reported and invoiced every month by the grid company. Maintenance and calibration of equipment ^{37/} is carried out according to recognized procedures ⁵⁷ . In accordance with the regulation on metering equipment's, the calibration frequency is set for a 10 years period. The purpose of the data is to calculate project from Electricity Consumption to demonstrate contribution to SDG 7. Further, calibration details can be referred under appendix 3 of the report.

⁵⁷ In accordance with the Regulation on metering equipment's, the calibration frequency is set for a 10-year period. Reference:
<http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.12316&MevzuatIliski=0&sourceXmlSearch>

12.	W_x	339,356 (Annual Average)	tons	Total amount of waste disposed in a SWDS in year x	The parameter is monitored daily using a weighbridge as a part of project contribution towards SDG 13. The values are checked with the weighbridge records/24/. The frequency of monitoring and recording is in accordance with the applied methodology/17/ and the previously registered reports such as VCS PD. However, these values are not used in the calculation of emission reductions. <table><tr><th>Year</th><th>Wx (tons)</th></tr><tr><td>01/07/2024-31/12/2024</td><td>158,618</td></tr><tr><td>01/01/2025-31/12/2025</td><td>325,802</td></tr><tr><td>01/01/2026-31/12/2026</td><td>334,598</td></tr><tr><td>01/01/2027-31/12/2027</td><td>343,632</td></tr><tr><td>01/01/2028-31/12/2028</td><td>352,910</td></tr><tr><td>01/01/2029-30/06/2029</td><td>181,220</td></tr><tr><td>TOTAL</td><td>1,696,780</td></tr><tr><td>AVG</td><td>339,356</td></tr></table> Weighbridge installed at the project activity are calibrated in every 2years. The purpose of the data is to measure municipal waste prevented to be used for electricity generation to demonstrate contribution to SDG11. Moreover, the weighbridge calibration details can be referred in appendix 6 of this report.	Year	Wx (tons)	01/07/2024-31/12/2024	158,618	01/01/2025-31/12/2025	325,802	01/01/2026-31/12/2026	334,598	01/01/2027-31/12/2027	343,632	01/01/2028-31/12/2028	352,910	01/01/2029-30/06/2029	181,220	TOTAL	1,696,780	AVG	339,356
Year	Wx (tons)																						
01/07/2024-31/12/2024	158,618																						
01/01/2025-31/12/2025	325,802																						
01/01/2026-31/12/2026	334,598																						
01/01/2027-31/12/2027	343,632																						
01/01/2028-31/12/2028	352,910																						
01/01/2029-30/06/2029	181,220																						
TOTAL	1,696,780																						
AVG	339,356																						

SDG 13 Climate Action

Parameter: Emission reductions achieved per year

Crediting Period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Emission reductions (tCO ₂ e)
01/07/2024-31/12/2024	50,920	0	50,920
01/01/2025-31/12/2025	107,148	0	107,148

01/01/2026-31/12/2026	112,319	0	112,319
01/01/2027-31/12/2027	117,387	0	117,387
01/01/2028-31/12/2028	122,378	0	122,378
01/01/2029-30/06/2029	63,658	0	63,658
Total	573,810	0	573,810
Total number of crediting years	5		
Annual average over the crediting period	114,762	0	114,762

SDG 7: Affordable and Clean Energy

Parameter: Quantity of electricity generated by the project activity (MWh)

Year	Baseline estimate (MWh/year)	Project estimate (MWh/year)	Net benefit (MWh/year)
01/07/2024-31/12/2024	0	18,720	18,720
01/01/2025-31/12/2025	0	37,440	37,440
01/01/2026-31/12/2026	0	37,440	37,440
01/01/2027-31/12/2027	0	37,440	37,440
01/01/2028-31/12/2028	0	37,440	37,440
01/01/2029-30/06/2029	0	18,720	18,720
Total	0	187,200	187,200
Total number of crediting years	5		
Annual average over the crediting period	0	37,440	37,440

SDG 11: Sustainable Cities and Communities

Year	Baseline estimate (MWh/year)	Project estimate (MWh/year)	Net benefit (MWh/year)
01/07/2024 - 31/12/2024	0	158,618	158,618
01/01/2025 - 31/12/2025	0	325,802	325,802
01/01/2026 - 31/12/2026	0	334,598	334,598
01/01/2027 - 31/12/2027	0	343,632	343,632
01/01/2028 - 31/12/2028	0	352,910	352,910
01/01/2029 - 30/06/2029	0	181,220	181,220
Total	0	1,696,780	1,696,780
Total number of crediting years	5		

Annual average over the crediting period	0	339,356	339,356
--	---	---------	---------

4. REFERENCE

S. No.	Document/Evidence/Reference/Weblink, Version, Date
1.	GS4GG registered PDD for previous Crediting period dated 03/10/2023 version 10.0
2.	Initial GS PDD (RCP) version 01 dated 14/09/2025 GS PDD (RCP) version 03 dated 24/02/2026 Final GS PDD (RCP) version 05 dated 31/08/2026
3.	Emission reduction Sheet version 03 dated 14/05/2026 SDG Impact Tool dated 14/05/2026
4.	Previously registered documents for 1 st Crediting Period such as: Registered PDD version 10.0 dated 03/10/2023 Registered validation report version 4.0Aa dated 04/10/2023 Registered monitoring report version 05 dated 13/09/2024 Registered verification report for previous verification period 01/03/2021-31/12/2023 (Both Days are included) version 03 dated 23/09/2024.
5.	Feasibility Study of Turkey LFG to Energy Project by Duru Environmental Technologies & Laboratory Services dated 02/02/2016
6.	Applied methodology: ACM0001 Version 19.0: Flaring or use of landfill gas
7.	Referred tools: • Tool 04 Emissions from solid waste disposal sites (V 08.1) • Tool 32 Positive lists of technologies (V 04.0) • Tool 10 to determine the remaining lifetime of equipment (V 01) • Tool 05 Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (V 03.0) • Tool 06 Project emissions from flaring (V 04.0) • Tool 08 to determine the mass flow of a greenhouse gas in a gaseous stream (V 03.0) • Tool 02 Combined tool to identify the baseline scenario and demonstrate additionality (V 07.0) • Tool 03 to calculate project or leakage CO₂ emissions from fossil fuel combustion (V 03.0) • Tool 09 Determining the baseline efficiency of thermal or electric energy generation systems (V 03.0) • Tool 07 to calculate the emission factor for an electricity system (V 07.0) • Tool 11 Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (V 03.0.1)
8.	TEIAS (Turkish Electricity Transmission Company) records submitted by the PP on sample basis EPIAS (invoices) records submitted by the PP on sample basis
9.	GS4GG Validation and Verification Standard, Version 2.0 GS4GG Site visit and remote audit requirements and procedures Version 2.0 Renewable Energy Activity Requirements, Version 1.4
10.	Training records of plant employees on sample basis Employment records of plant employees on sample basis
11.	Technical specification/ user manual of biogas extraction and combustion system, engines, flowmeter, gas analyzer, weighbridge.
12.	Waste Amount Records on sample basis
13.	The Gold Standard for Global Goals "Principles and Requirements" Version 2.1
14.	National laws and regulations https://mevzuat.gov.tr/

S. No.	Document/Evidence/Reference/Weblink, Version, Date
15.	Generation license / Provisional acceptance protocol (Commissioning certificate) dated 04/10/2018 by Republic of Turkey Energy Market Regulation Authority.
16.	Calibration records of the equipments such as flowmeters, gas analyser, pressure transmitter, energy meters, weighbridge.
17.	Single Line Layout Diagram
18.	Remote Interview observations dated 25/09/2025
19.	EIA approval certificate by Ministry of Environment & Urbanisation dated 08/03/2016
20.	Plant datalog system
21.	No double counting declaration dated 07/07/2025 ODA Declaration by PD (GS4GG format) by dated 04/07/2025
22.	IPCC 6 th assessment report - https://www.ipcc.ch/assessment-report/ar6/ IPCC 2006 Guidelines for National Greenhouse Gas Inventories and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
23.	Flowmeter records Gas analyser records Flame detector records Thermocouple records
24.	MSW weighing printed receipts / weighbridge records
25.	- GS Deviation request approval dated 28/11/2023 wherein continuation of the performance review subject to compliance with the Site Visit and Remote Audit Requirements and Procedures (V2.0), Sections 3.1 and 3.1.1, which require at least one physical site visit every three years after the initial visit was permitted to the PP. - GS Deviation request approval dated 12/09/2025 wherein PP was allowed to submit the Design Certification renewal request not exceeding 6 months from the deviation decision date i.e. 12/09/2025.
26.	Gas Engine Contract Date as start date of the project activity
27.	Power Purchase Agreement signed between Sekay and TEIAS publicly owned distribution company dated 30/08/2018
28.	O&M Service Agreement

5. FINAL PROJECT DESIGN CERTIFICATION RENEWAL STATEMENT

Applus+ Certification have performed an RCP validation of the "Sakarya Landfill Gas Power Plant". The RCP validation was performed on the basis of Gold Standard GS4GG guideline and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the GS4GG PDD (RCP) and the subsequent follow-up interviews has provided Applus+ Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project meets all relevant UNFCCC and Gold Standard requirements for the Gold Standard (GS4GG)^{/9//13/} and all relevant host country criteria. The project will hence be recommended by Applus+ Certification for renewal of crediting period with the Gold Standard Registry.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of annual emission reductions of 114,762 tCO₂e per year^{/3/}.

The design certification renewal has been performed following the requirements of the latest version of the GS4GG Validation and Verification Standard, Version^{/9/} 2.0, GS4GG principles and requirements^{/13/}, V2.1 and on the basis of the contractual agreement.

In detail the conclusion can be summarized as follows:

- The project does not result in negative social, environmental and/or economic impacts.
- The project contribution to Environment, Social Development and Economic and technological development
- The project additionality is sufficiently justified in the Gold Standard PDD & also the evidence provided sufficiently supports the continued applicability of financial need for the project.
- The project does not result in diversion of ODA.
- Conservative assumptions were applied in the project description.
- The monitoring plan of SD parameters is transparent and adequate.
- The project meets the stakeholder consultation requirements

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the RCP validation.

Date: 10/09/2026

Lead Auditor: Mr. Ishan Shrivastava (Former: Mr. Deepak Pundlik)⁵⁸

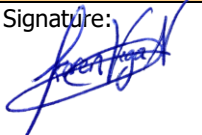
**Technical Expert
& GS approved**

Auditor:

Tech. Reviewer: Mr. Nikunj Agarwal

Approver (*Applus+ Certification VVB Technical Manager*)

Ms. Karen Elizabeth Vega Nonalaya

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

⁵⁸ Mr. Deepak Pundlik served as the initial Lead Auditor and Technical Expert for this project. He conducted the remote assessment of the project. However, from 10/10/2025, Mr. Deepak is no longer associated with M/s True Quality Certifications Private Limited, therefore subsequent assessment has been carried out by different team member, viz Mr. Ishan Shrivastava as Lead Auditor. Technical expert & GS Approved auditor.

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

Table 1. Remaining Forward Action Requests (FAR) from validation and/or previous Validation

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Validation team	Section no. of VR:	FAR from previous performance review
Description of the audit finding		Date:	20/04/2026
FAR Raised during previous performance review: "PD and GS VVB shall do the analysis of the emission reductions for the current and next monitoring period. While doing so PD and GS VVB shall compare the ex-ante input parameters/values and ex-post actual monitored values to confirm if there is any design change in project parameters as reported in registered ex-ante emission reduction calculation sheet and registered PDD."			
Project Developer's response		Date:	14/05/2026
As defined under Rule Clarification ASSESSMENT APPROACH FOR REPORTING HIGHER EX-POST EMISSION REDUCTIONS which is addressed in the last performance review; This rule clarification applies to projects that applied investment analysis options for additionality demonstration at the time of design certification under any version of the Gold Standard. As the project is auto additional, it does not require to establish additionality and sensitivity analysis accordingly. Further, it is to be noted that there is no any technological changes are carried in the project activity. The technological assumptions and parameters are still valid as during the registration, which was considered very conservative and default values were applied to estimate the emissions reductions using first order decay modeling. The assumption parameters during registration like landfill gas collection efficiency which was taken as 50% & correction factor of 0.75 was applied, while the actual collection efficiency was increased during the first monitoring period. hence Rule Clarification - TREATMENT OF PROJECTS OVERACHIEVING EMISSION REDUCTIONS not applicable to the project activity. Moreover, as per the email clarification dated 12 September 2024 received from Gold Standard (Email copy attached), the rule clarification - TREATMENT OF PROJECTS OVERACHIEVING EMISSION REDUCTIONS is applicable where the project activity has demonstrated additionality through investment analysis & sensitivity demonstration. Whereas, this project activity has demonstrated additionality through a positive list of technologies eligible for auto-additionality. Thus, this rule clarification is not applicable to the project activity			
Documentation provided as evidence by Project Developer			
Mail copy			
Auditor's assessment comment		Date:	26/05/2026
VVB team reviewed the clarification raised to GS4GG concluded as per "email clarification dated 12 September 2024 received from Gold Standard (email copy response), the rule clarification "TREATMENT OF PROJECTS OVERACHIEVING EMISSION REDUCTIONS" is applicable to project activities that have demonstrated additionality through investment analysis and sensitivity analysis. However, the present project activity has demonstrated additionality through the positive list of technologies eligible for automatic additionality. Therefore, the aforementioned rule clarification is not applicable to the project activity. Thus, FAR is closed.			

Table 2. Clarifications (CL) from this Validation

Type:	☐ CAR FAR	☒ CL/CR	☐	Number:	01
Raised by:	Validation team			Section no. of VR:	3.8
Description of the audit finding				Date:	30/09/2025
1. As discussed during remote audit, the project activity landfill does not receive new waste. Still PP has shown the values of SDG 7, 11 and 13 same as that of at the time of projects registration. Clarification is requested for the same. It is not clear why PP has not used average values or the maximum achieved values over the 1st crediting period as ex-ante values for the current crediting period. 2. Further, with no new incoming bio-degradable waste, the project activity will not produce organic fertilizer.					
Project Developer's response				Date:	19/11/2025
1. Values have been updated in the PDD 2. Typing mistake has been corrected.					
Documentation provided as evidence by Project Developer					
Updated PD					
Auditor's assessment comment				Date:	16/12/2025
1. As checked in the revised PDD as sent to VVB, no as such details are found in the sections. PP shall give all the values in the track change mode, so as to track all the revisions pertaining to the observations. This finding is open. 2. There is a mention about yields of organic fertilizer in the scope of project in the PDD. PP shall clearly elaborate throughout the PDD, if there is any yield or not. This finding is open. CL open.					
Project Developer's response				Date:	21/12/2025

Type:	☐ CAR FAR ☒ CL/CR ☐			Number:	01		
Raised by:	Validation team			Section no. of VR:	3.8		

1) Below is the comparison of the SDGs from the PD of first crediting period and second crediting period. As the PDD template has been updated it is not possible to track these values.

Sustainable Development Goals Targeted	SDG Impact	Estimated Annual Average	Units or Products	SUSTAINABLE DEVELOPMENT GOALS TARGETED	SDG IMPACT (DEFINED IN B.6)	ESTIMATED ANNUAL AVERAGE	UNITS OR PRODUCTS
1 – SDG13 Climate Action	Emission Reductions	67,702	tCO ₂ e (VERs)	13 Climate Action	Emission Reduction	114,762	tCO ₂ /year GSVERs
2 – SDG7 Affordable and Clean Energy	MWh of renewable energy generated	37,440	MWh	7 Affordable and Clean Energy	Generating Clean Energy	37,440	MWh/Year
3 – SDG11 Sustainable Cities and Communities	Municipal waste used for electricity generation	217,964	Tons	11 Sustainable Cities and Communities	Municipal waste used for electricity generation	339,356	Tons/year

PP has used maximum achieved weighbridge values (2023 Weighbridge records from the latest monitoring report) over the 1st crediting period multiplying by the population growth to estimate ex-ante values for the current crediting period.

2) There has been a typo mistake. Project is not involved in producing organic fertilizer from municipal waste. PDD has been corrected.

Documentation provided as evidence by Project Developer

Revised PDD

Auditor's assessment comment	Date: 02/01/2026
------------------------------	------------------

1) PP's response is accepted, and the following changes are now visible in the revised PDD. Therefore, this part is closed.

2) The typo error has now been revised throughout the PDD as checked by the VVB, wherein it was previously mentioned about organic fertilizer. Therefore, this point is closed.

CL closed.

Table 3. Corrective Action Requests (CAR) from this Validation

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Validation team	Section no. of VR:	3.8
Description of the audit finding		Date:	30/09/2025
The submitted PDD is in version 1.0 of GS4GG template. The latest template version is 1.5. Kindly revised PDD and submit in the most recent template. The template related findings are on hold till latest PDD is submitted.			
Project Developer's response		Date:	19/11/2025
1) PD has been updated to the latest version			
Documentation provided as evidence by Project Developer			
Revised PDD			
Auditor's assessment comment		Date:	16/12/2025
Revised PDD was checked by the VVB, however there are some sections in the PDD that needs to be corrected. Please refer to the comments in the PDD. Point is open.			
CAR open.			
Project Developer's response		Date:	24/12/2025
PDD has been corrected according to the comments now.			
Documentation provided as evidence by Project Developer			
Revised PDD			
Auditor's assessment comment		Date:	02/01/2026
All the comments in the PDD are now resolved as per the comments. Therefore, this finding is closed.			
CAR closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Validation team	Section no. of VR:	3.8
Description of the audit finding		Date:	30/09/2025
1. The submitted PDD mentions Project representative as Green Consult and Finance (Green Danışmanlık Finans Ltd. Şti.). The role of this party is unclear. 2. The version and date of submitted PDD is 10 and 03/10/2023 respectively. It is not clear how this PDD at the time of registration is being submitted for design certification of renewal of crediting period. 3. The version of ACM0002 mentioned is the not most recent version. Correction sought. Section B of the PDD and applicable equations for emission reductions shall be corrected accordingly. 4. Section B of the submitted PDD does not discuss about the applicable tools and their applicability. 5. Section B.3 does not consider the other facility located near the project facility. As discussed during remote audit, the rejects from this other waste storage facility are being dumped in the project waste storage facility 6. PP shall demonstrate baseline in line with tool 11 in section B.4 and in section B.5, ongoing financial need shall be demonstrated. 7. PP has used tool 32 to demonstrate, project as a part of positive list of technologies. However, the tool's applicability has expired on 10/05/2025. 8. Table 5 provided in the section B.5 shall also provide details about start and end date of crediting period and periodic issuances claimed by the project activity.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Validation team	Section no. of VR:	3.8
9. PP has used tool 4, tool 6 but the version used are not the most recent one. Correction is requested.			
Project Developer's response		Date:	19/11/2025
1) Project representative has been corrected to Climetrek LTD. 2) PDD version and date has been corrected 3) ACM0002 methodology has been removed from the PD as ACM0001 version.19.0 covers all the conditions for the project. 4) All applicable tools and their applicability has been added now. 5) Near the project facility there is a biogas plant with different project boundary. This project is registered under GS as well. The rejects (non-recyclables) are neglected and not reported as the quantity is very low and has no effect on the landfill project. 6) On going financial need has been analysed as per the tool under Section B.4 now 7) PD has been updated with Tool 32 version 04.0 As per the new version of the tool; the project is still in the positive list of technologies. 8) Table has been updated to provide periodic issuances now. 9) Tool 4 and Tool 6 have been revised to latest version now.			
Documentation provided as evidence by Project Developer			
Updated PDD			
Auditor's assessment comment		Date:	16/12/2025
1. Climetrek LTD. is now corrected from Green Consult and Finance (Green Danışmanlık Finans Ltd. Şti.) as project representative throughout the PDD. Therefore, this part is closed. 2. PDD has been corrected with the latest version and date as per the raised observations. Therefore, this part is closed. 3. If the methodology is removed, PP shall clearly describe the reasons and also the impact of the same in the PDD. PP is requested to provide the same in the PDD too. Point is thus open. 4. All applicable tools and their applicability are now added with the proper justifications in the revised PDD. Therefore, this point is closed. 5. PP's response is accepted, as the dump from the other project is negligible and does not count as such. Therefore, this point is closed. 6. Ongoing Financial Need has now been explained under the section B.4 of the revised PDD, however PLF variation in the sensitivity tool in the IRR sheet seems to be incorrect. PP shall and rectify the inconsistency. Point is open. 7. Tool 32 was checked and it was found that the conditions as per the clause 5 of the tool is being fulfilled by the project, therefore acceptable to VVB. Therefore, this part is closed. 8. above mentioned changes are not traceable in the PDD. PP shall recheck and rectify the same. Point is open. 9. Tool 4 & Tool latest versions are now provided in the revised PDD. Therefore, this point is closed.			
CAR open.			
Project Developer's response		Date:	24/12/2025
3) As stated in ACM0001 v.19 under section 2; Scope of methodology applies to project activities that include the destruction of methane emissions and displacement of a more-GHG-intensive service by capturing landfill gas from the landfill site and/or flaring and/or using to produce energy (i.e. electricity). Besides ACM0001 refers to " <i>Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation</i> " tool to			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Validation team	Section no. of VR:	3.8
calculate baseline emissions from electricity generation and project emissions from electricity consumption. So ACM0001 covers all conditions related with ACM0002 in the project scenario. Above explanation has been added under section A.1.1. It was already a mistake to include ACM0002 during the first crediting period. And removing this mistake from the PDD has no effect in calculating the baseline or project emissions and the applicability. 6) PLF variation in the sensitivity tool has been corrected and now PD and IRR sheet is in-line.			
Documentation provided as evidence by Project Developer			
PD Version 02			
Auditor's assessment comment		Date: 02/01/2026	
3) PP's response is accepted. Since this is renewal of crediting period, Therefore, this point is closed. 6) The variation in the PLF is now made consistent with the PDD and IRR Sheet, therefore this point is closed.			
CAR closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Validation team	Section no. of VR:	3.8
Description of the audit finding		Date:	30/09/2025
Section A.5 of the submitted PDD discusses project scenario for the 1 st the crediting period. PP shall correct and provided project scenario for the current i. e. 2 nd crediting period.			
Project Developer's response		Date:	19/11/2025
Correction has been done.			
Documentation provided as evidence by Project Developer			
Revised PDD			
Auditor's assessment comment		Date: 16/12/2025	
SDG 13 target claimed by PP in section B.6.1 is unclear. PP shall ensure consistency between the SDG target, its values and unit of measurement throughout the PDD. E. g. for SDG, the 'key information table' mentions value for emission reductions in tCO₂ while section B.6.1 has described target related to electricity generation, methane avoidance, trainings etc. PP to mentions SDG goal, target and indicator clearly. SDG 13 target has been consistently claimed now. Corrections have been made under section B.6.1			
Project Developer's response		Date: 24/12/2025	
Section B.6.1 has been corrected and now in-line with the ER sheet and the SDG Impact Tool. SDG table under section B.6 has been corrected to reflect the correct SDG indicators/targets.			
Documentation provided as evidence by Project Developer			
PDD Version 02.			
Auditor's assessment comment		Date:	02/01/2026

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Validation team	Section no. of VR:	3.8
Section B.6.1 of the MR has now been made consistent with the SDG tool, and all the SDG values are made in line with the table 1 of the MR. therefore this point is closed. CAR closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Validation team	Section no. of VR:	3.9
Description of the audit finding		Date:	30/09/2025
In B.6.2, - for $BECH_4, SWDS, y$, the values used in the calculation are for the 1st crediting period. - For grid emission factor calculation as per tool 07, PP to use the most recent values - values mentioned for SDG 11 are for the 1st crediting period. PP shall revise the PDD for renewal of crediting period and check the values of ex-ante parameters and correct as required in section B.6.3. Section B.6.4 shall provide calculations using values for the 2nd crediting period. In section B.6.3, SDG 13 target considered is 13.3 which is incorrect. PP is demonstrating emission reductions and thus 13.2 is more appropriate.			
Project Developer's response		Date:	19/11/2025
Section B.6.2 has been updated with the latest data. Section B.6.4 has been updated with the values from the 2nd crediting period. SDG Target has been corrected to 13.2.1 under section B.6 (corrected to T:13.2.1 Refers to total amount of greenhouse gases avoided or sequestered)			
Documentation provided as evidence by Project Developer			
-			
Auditor's assessment comment		Date:	16/12/2025
1. Section B.6.2 has been updated, however there were a few parameters that were found to be incorrectly stated in the PDD. Kindly refer to the comments in PDD. Point is open. PP has used the most recent value for the grid emission factor calculation as per tool 07, which was cross verified from the Turkish Grid Emission Factor datasheet. Therefore this part is closed. 2. B.6.4 has been updated, however the estimations for the SDG are not provided in the ER Calculation sheet. Therefore this point is open. 3. SDG Target has been corrected to 13.2.1 under section B.6 as checked by the VVB. Therefore this point is closed. CAR open.			
Project Developer's response		Date:	24/12/2025
2) Estimations for the SDGs have now been provided under SDG parameters tab in the ER sheet.			
Documentation provided as evidence by Project Developer			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Validation team	Section no. of VR:	3.9
ER Sheet V02			
Auditor's assessment comment		Date: 02/01/2026	
2) ER Sheet of the project has now been revised to include the estimations of all the SDG values for the current crediting period. Therefore, this part is closed.			
CAR closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	05
Raised by:	Validation team	Section no. of VR:	3.9
Description of the audit finding		Date:	30/09/2025
- Section C.1.1 provides safeguarding principles table. Same is not appropriate in this section. - Section C.2 shall mention crediting period details for the 2nd crediting period.			
Project Developer's response		Date:	19/11/2025
Section C.1.1 has been updated as per the new template now. Section C.2 typing mistake has been corrected.			
Documentation provided as evidence by Project Developer			
Auditor's assessment comment		Date:	16/12/2025
1. Section C.1.1 is now updated in the revised PDD, mentioning the start date of the project, however VVB noted that as per the provided production license/provisional acceptance protocol and also the previously registered PDD, the date is 04/10/2018, whereas PDD mentions as 02/01/2018. PP shall check and rectify the same in the respective section. Point is open. 2. mentioned crediting period is mentioned correctly in the revised PDD under the section C.2 which is as per the PDD template guidelines. Therefore this part of the finding is closed.			
CAR open.			
Project Developer's response		Date:	24/12/2025
1) As in line with the registered PD; section C.1.1 updated accordingly: "The starting date of a project activity is the earliest date at which either the implementation or construction or real action of a project activity begins. Therefore, the earliest considerable financial agreement is the contract of gas engine supply signed by the project developer on 27/02/2018. Thus, 27/02/2018 is determined as the start date of the project."			
Documentation provided as evidence by Project Developer			
PD Version 02			
Auditor's assessment comment		Date:	02/01/2026

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	05
Raised by:	Validation team	Section no. of VR:	3.9
1) As per the clause 4.1.39 of the GS P&R version 2.2, "<i>The Project start date is the earliest date on which the Project Developer has committed to expenditures related to the implementation of the Project.</i>". therefore, accordingly the earliest considerable financial agreement is the contract of gas engine supply signed by the project developer on 27/02/2018. Thus, 27/02/2018 is determined as the start date of the project. Hence this part is closed. CAR closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	06
Raised by:	Validation team	Section no. of VR:	3.9
Description of the audit finding		Date:	16/12/2025
1. PP shall mention the relevant SDG no and its indicators for all the ex-ante as well as ex-post parameters, as also reflected in the previously registered PDD. Point is open. 2. Certain other parameters are missing such as $FC_{i,y}$, $NCV_{i,y}$, $EF_{CO_2,m,i,y}$, E_{gy}, $\eta_{m,y}$, p_{CH_4}, n. PP shall check and clarify on the same, if there is any specific reason behind the same. Point is open. 3. Calculation of the $BE_{CH_4,SWDS,y}$, W_x parameter is missing from the excelsheet. PP shall rectify the same. 4. All the SDG Impact estimate tables for the whole crediting period is missing from the ER Excelsheet. PP shall reflect all the estimates in a separate tab. This point is therefore open. 5. As per the provided calibration certificate for the flowmeter installed in the plant, the name of manufacturer seems to be inconsistent and also accuracy class could not be identified for the flowmeters. PP shall check and rectify the same. 6. Calculation of the $EG_{PJ,y}$ parameter is missing from the excelsheet. PP shall rectify the same. 7. There were parameters such as $EC_{PJ,Y}$ & TEG_m which are missing in the recent PDD, while they were present in the previously registered PDD. PP shall clarify the rationale behind the same, and rectify accordingly. Point is open. CAR open.			
Project Developer's response		Date:	24/12/2025
1) SDG No and indicator has been added as a headline and under the purpose of data Each parameter under the headline of the SDG is its relevant indicator. 2) $FC_{i,y}$, $NCV_{i,y}$, $EF_{CO_2,m,i,y}$, E_{gy}, $\eta_{m,y}$ has been used to calculate combined margin emission factor of the grid during the pervious PD submission. But as the combined margin emission factor for the grid system is now published by Turkish Republic Ministry of Energy. These parameters have been removed from the current PD as they are no longer used to calculate emission factor for the electricity system. Parameter p_{CH_4}, n is reported under section B.6.2 just after the GWP parameter. 3) Calculation of $BE_{CH_4,SWDS,y}$ can be seen under the Ex-ante FCH_4,PJ,y tab in the ER sheet (Cell B71 to B74 and the following cells) Calculation of W_x parameter have been added in the same tab as well now. 4) All SDG Impacts have been calculated under the SDG Parameters tab in the ER sheet			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	06
Raised by:	Validation team	Section no. of VR:	3.9
5) As also stated in the calibration document. The manufacturer is TECNOVA and the calibration is carried out by TERCOM s.r.l. Accuracy explanation has been removed from the PD. 6) As in-line with the Registered PD; $EG_{PJ,y}$ is calculated based on the Capacity of Project activity which is 4.68 MWe and with expected annual operation time which is 8000 hours. ER Sheet has been updated accordingly to reflect the calculation of $EG_{PJ,y}$ now. 7) $EC_{PJ,y}$ was not stated in the previous registered PD and is now also removed from this PD. TEG_m has been added under the parameters that has to be monitored			
Documentation provided as evidence by Project Developer			
Revised PDD			
Revised ER Sheet			
Auditor's assessment comment		Date:	02/01/2026
1) In the revised PDD, all the SDG indicators are now mentioned, which is as per the registered PDD of previous crediting period. Therefore, this part is closed. 2) During the previous PD submission of the previous crediting period, the combined margin emission factor of the grid was calculated using the parameters $FC_{i,y}$, $NCV_{i,y}$, $EF_{CO_2,m,i,y}$, $EG_{i,y}$ and $\eta_{m,y}$. However, for the current PD, the combined margin emission factor applicable to the Turkish electricity grid is officially published by the Turkish Republic Ministry of Energy and is directly adopted for emission calculations. Also, the parameter pCH₄, n is found in the PDD under ex-ante parameters. Therefore, this point is closed. 3) $BE_{CH_4,SWDS,y}$ calculation is present under the ER tab 'Ex-ante $F_{CH_4,PJ,y}$', which is as per the applied CDM methodology & tools. Moreover, W_x parameter calculation has been now added in the ER Sheet, which is also as per the waste collection records maintained by the PP on site. Therefore, this finding is closed. 4) The claimed SDG parameters are now reflected in the ER Sheet, which is correct as per the information as provided in the PDD. Therefore, this part of finding is closed. 5) PP's response is accepted, and the same has been found consistent with the certificates as provided by the PP. Therefore, this part is closed. 6) Calculation of $EG_{PJ,y}$ is now reflected under the ER Sheet, which is as per the applied CDM methodology as well as the calculation provided under the section B.7.1 of the MR. therefore this part is closed. 7) PP's response has been checked in the revised MR and is found ok in line with the previously registered PDD; therefore, this point is also closed.			
CAR closed.			

Table 4. Forward Action Requests (FAR) from current assessment

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Validation team	Section no. of VR:	
Description of the audit finding		Date:	23/07/2026
During the next verification, the Project Developer shall continue to assess and document the comparison between the ex-ante estimated emission reductions and the ex-post monitored emission reductions. Where significant deviations continue to occur, the Project Developer shall			

Type:	☐ CAR ☐ CL/CR ☒ FAR	Number:	01
Raised by:	Validation team	Section no. of VR:	
provide a documented technical analysis demonstrating that such deviations are attributable to actual operational performance and conservative ex-ante assumptions, and confirm that no project design changes have occurred that would require application of the Gold Standard design change requirements.			
Project Developer's response		Date:	
Documentation provided as evidence by Project Developer			
Auditor's assessment comment		Date:	

Appendix 2: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
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 significant role in supporting Audit teams as Lead Auditor & Technical Expert (TA 1.2, 3.1 & 13.2) 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 part of the Audit Team as Lead Auditor, Technical Expert & GS approved auditor for the assessment.
Mr. Deepak Pundlik	Mr. Deepak Pundlik has more than 17 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 will participate as part of the Audit Team as Lead Auditor and Technical Expert for the assessment.
Mr. Nikunj Agarwal	Mr. Nikunj Agarwal has very extensive experience (19 years) in the field of carbon market. He had been working with the different Europeans DoE's (Verification Bodies) accredited by UNFCCC for the Carbon Credits Certification. He had also worked as consultant for Energy Efficiency

	projects. Apparently, he had worked as Monitoring and Verification Experts in Energy Efficiency Projects. He had worked more than 300 Carbon projects under CDM/VCS/GS) in South Asia and others Region such as: India, Philippines, Malaysia, Fiji, Indonesia, China, Israel, Pakistan, Chile, Peru, Columbia, South Africa, Singapore, Nepal & Thailand. He is the Certified Energy Manager by the Bureau of Energy Efficiency, Government of India. He is in the Pool of Methodology Expert by the UNFCCC. He was part of the Gold Standard Advisory Panel for the CLIMATE SMART AGRICULTURE (CSA). Mr. Nikunj Agrawal is based in Duba City, Saudi Arabia. Mr. Nikunj Agarwal participates as Technical Reviewer (TR) for this Project activity.
--	---

Appendix 3: Calibration details

Flowmeter details: (for parameter **LFG_{total,y}**, **LFG_{flare,y}**, **LFG_{electricity,y}**, **F_{CH4,RG,m}**, **PE_{flare,y}**, **V_{i,t,wb}**)

MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
ORIFICE PLATE - DCMD200016CS	TECNOVA HT	16218-FE-01 16218-FE-02	10 years

Gas analyser and flowmeter details: (for parameter: **F_{CH4,RG,m}**, **W_{CH4}**)

MEASUREMENT EQUIPMENT	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
Gas Analyser 1	SWG-100BIOGAS	MRU	80942	10 years
Gas Analyser 2 Manual	OPTIMA 7	MRU	315854	10 years
Flow meter 1	ORIFICE PLATE - DCMD20001 6CS	NOVA HT	16218-FE-01	10 years
Flowmeter 2	ORIFICE PLATE - DCMD20001 6CS	TECNOVA HT	16218-FE-02	10 years

Energy meter details: (for parameter: **EG_{PJ,y}**)

MEASUREMENT EQUIPMENT	MODEL	MANUFACTURER	SERIAL NO.	CALIBRATION FREQUENCY
ELECTRICITY METER 1 (MAIN)	LANDISGYR ZG405CR4	LANDIS+GYR	40761750	10 years
ELECTRICITY METER 2 (SPARE)	LANDISGYR ZG405CR4	LANDIS +GYR	40761749	10 years
ELECTRICITY METER 3 INSTALLED INSTEAD OF ELECTRICITY METER WITH SERIAL 40761750	LANDISGYR ZG405CR4	LANDIS+GYR	50714836	10 years

Weighbridge details: (for parameter: w_x)

MEASUREMENT EQUIPMENT	MODEL	MANUFACTURE R	SERIAL NO.	CALIBRATION FREQUENCY
Weighbridge	LL2	TUNAYLAR	17657	2 Years