



CREDITING PERIOD RENEWAL VALIDATION REPORT

For the GS Voluntary Project Activity

**Samsun Landfill Gas to Energy Project,
Turkey**

REPORT No.
GS.24.VAL.046

Date of this issue: 29/01/2025	KBS Ref. No.: GS.24.VAL.046
Organizational Unit:	Client:
Climate Change Division, KBS	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
Project Design Document	
First PDD:	Final PDD:
Version:01	Version: 04 (Registered Initial PDD version: 09)
Date: 18/03/2024	Date: 22/01/2025 (Registered 1 st CP Renewal PDD date: 21/01/2020)
Summary of validation:	
Samsun Avdan Enerji Üretim ve Tic. A.Ş. has commissioned KBS Certification Ltd. (KBS) to perform the crediting period (CP) renewal validation of the registered Gold Standard project activity:	
Project Title:	Samsun Landfill Gas to Energy Project, Turkey (GS 935)
Methodology Applied:	“ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources - Version 22.0”
Sectoral Scopes:	Sectoral Scope 01 & 13 (Technical Areas 1.2 & 13.1)
The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Gold Standard Validation and Verification Standard version 2.0, CDM Validation and Verification Standard version 3.0, CDM Project Standard for Project Activities version 3.0 and Gold Standard for Global Goals rules and requirements. The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g. on-site observations and interviews), the review of the applicable approved methodological and relevant tools, guidance, CDM decisions and requirements of Gold Standard for Global Goals. The review of the project design documentation and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfilment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the CP renewal validation along with requirements of Gold Standard for Global Goals. ☒ Will be recommended to the Gold Standard with a request for renewal of crediting period ☐ Is not recommended for renewal of crediting period	
Validation Status:	
☐ Findings not closed	
Project type: Large scale	☐ Draft validation report
Subject: GS4GG Crediting Period (CP) Renewal Validation	☒ Final validation report
Validation Team:	
Document Distribution	
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Technical Review Team:	Manager T&C
Technical Reviewer (TA 1.2 & 13.1): Mr. Rohit Badaya Date: 27/01/2025	Name: Ms. Margaret Francis Date: 30/01/2025
☐ Limited Distribution	
Authorized by:	
Name: Mr. Praveen N. Urs, Director Climate Change & Sustainability Date: 30/01/2025	
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01	20/12/2024	
01.1	30/01/2025	

Abbreviations

BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification request
COP	Conference of Parties
CP	Crediting Period
DR	Document Review
EB	Executive Board
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GS4GG	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LSC	Local Stakeholder Consultation
LE	Leakage Emissions
MOP	Meeting of Parties
MoV	Means of Verification
MP	Monitoring Plan
PA	Project Activity
PDD	Project Design Document
PE	Project Emissions
PP	Project Participant
QA/QC	Quality Assurance/Quality Control
RfR	Request for Registration
SD	Sustainable Development
SFR	Sustainability Feedback Round
T&C	Technical & Certification
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reductions
VVB	Validation/Verification Body
VVS	Validation & Verification Standard

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1. Validation Opinion

KBS Certification Services Ltd. (KBS) has been contracted by Samsun Avdan Enerji Üretim ve Tic. A.Ş. to perform the CP renewal validation of the project under GS4GG:

Project title: Samsun Landfill Gas to Energy Project, Turkey (GS 935)

Host Party: Türkiye

The CP renewal validation was performed in accordance with the Gold Standard Validation and Verification Standard version 2.0, CDM Validation and Verification Standard version 3.0, CDM Project Standard for Project Activities version 3.0, Gold Standard for Global Goals rules and requirements and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The proposed GS project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change. In our opinion, the project meets all relevant Gold Standard, CDM and host country criteria.

The project correctly applies CDM methodologies: "ACM0001: Flaring or use of landfill gas – Version 19.0" and "ACM0002 Grid-connected electricity generation from renewable sources-Version 22.0"/10/. It is demonstrated that the project is not a likely baseline scenario. The emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

Based on the information checked and evaluated, KBS confirms that the implementation of the project will result positive contribution to sustainable development as follows:

1) **SDG 7: Affordable and clean energy:** 54,600 MWh/year of net electricity is expected to be supplied by the project activity to the grid during the 3rd CP.

2) **SDG 8: Decent work and economic growth:** The project is expected to provide between 20 and 25 employment annually and at least 1 training is planned to be provided to each employee annually during the 3rd CP.

3) **SDG 13: Climate Action:** The total emission reductions from the project are estimated to be 1,938,770 tCO_{2e} (as GS VERs) during the 3rd CP with an annual average of 276,967 tCO_{2e} (as GS VERs).

The emission reduction calculations have been checked by the CP renewal validation team and it is deemed likely that the stated amount is achievable given the underlying assumptions do not change.

The project will hence be recommended by KBS for the renewal of crediting period of the project by the Gold Standard.

Authorized Signatory



Signature:

Name: Praveen N. Urs

Place: Faridabad

Date: 30/01/2025

2. Introduction

2.1 Objective

KBS Certification Services Ltd. has been appointed by “Samsun Avdan Enerji Üretim ve Tic. A.Ş.” to perform the crediting period renewal validation of the project: “Samsun Landfill Gas to Energy Project, Turkey” with the CP renewal validation service agreement /04/. The objective of this validation activity is to have an independent third party for the assessment of the project, and to ensure that the selected baseline, estimated emission reductions and monitoring plan is still in line with the applied methodologies and the applicable CDM and Gold Standard requirements. In particular;

- the project's baseline is assessed against “ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources” Version 22.0/11/ and “Tool “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” Version 03.0.1/22/
- the project's monitoring plan is assessed against “ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources Version 22.0”/11/
- the projects compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria
- Gold Standard Validation and Verification Standard version 2.0/16/
- CDM Validation and Verification Standard version 3.0/17/
- CDM Project Standard for Project Activities version 3.0/18/
- Gold Standard for Global Goals Principles & Requirements version 2.0/12/

The validation is a requirement for all GS-VER projects that are requesting a renewal of crediting period and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified emission reductions (VERs).

2.2 Scope

The scope of the CP renewal validation is the independent and objective review of the Project Design Document (PDD) which is revised for the 3rd CP. The CP renewal PDD/07/ is reviewed against the relevant criteria (please see Section 2.1) including the approved baseline and monitoring methodologies/11/. The validation was based on the guidance given in the Gold Standard Validation and Verification Standard version 2.0 /16/, CDM Validation and Verification Standard version 3.0/17/, CDM Project Standard for Project Activities version 3.0/18/ and Gold Standard for Global Goals Principles & Requirements version 2.0 /12/.

The validation team has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the PDD/07/. The main focus of the validation team is to determine if the identified baseline is still applicable to the project activity, if the estimated emission reductions for the 3rd crediting period are still conservative and if the monitoring plan is still feasible for the project activity.

The only purpose of the validation is its usage during the renewal of crediting period process as part of the Gold Standard project cycle. Therefore, KBS Certification Services Ltd. can't be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

3. Methodology

3.1 Review of GS-PDD and Additional Documentation

The CP renewal validation is performed primarily as a document review of PDD version 04 dated 22/01/2025/07/. The cross checks between information provided in the PDD/07/ and information from sources other than those used, if available, the validation team's sectoral or local expertise and, if necessary, independent background investigations.

3.2 Site Visit

The project owner representatives and local stakeholders had been interviewed during the on-site visit along with the document review process to achieve the reasonable level of assurance during the CP renewal validation as detailed in other sections of the report.

The following has been conducted during the on-site visit as a part of the CP renewal validation process:

- The assessment of the implementation and operation of the project activity as per the CP renewal PDD/07/ and relevant GS4GG requirements;
- The verification of the project design, as documented is sound and reasonable, and meets the relevant GS4GG requirements;
- The assessment of the conformance with the certification criteria as laid out in the GCC Standards;
- The assessment of the conformance with the certification scope, including the GHG project and baseline scenarios, additionality; GHG sources, sinks, and reservoirs; and the physical infrastructure, activities, technologies and processes of the GHG project to the relevant GS4GG requirements;
- The assessment of the calculation of GHG emissions, including the correctness and transparency of formulae and factors used; assumptions related to estimating GHG emission reductions; and uncertainties and whether the project could reasonably be expected to achieve the estimated GHG reduction/removals;
- The review of calculations and assumptions made in determining the GHG data and estimated ERs;
- The review of information flows for generating, aggregating and reporting of the ex-ante monitoring parameters.
- The review of parameters in the CP renewal PDD/06/ identified for sustainable development goals and safeguarding principles
- The interviews with relevant personnel to confirm that the operational and data collection procedures can be implemented in accordance with the Monitoring Plan;
- The cross-check between information provided in the submitted documents and data from other sources;
- The identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters
- The verification of stakeholder consultation process and the assessment of grievance mechanism by interviewing the stakeholders

The list of people who were interviewed during the CP renewal validation period and through the on-site visit is given in the Table 3-1 below:

Table 3-1: List of persons interviewed

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Yilmaz	Mr. Selim	Plant Manager, Samsun Avdan Enerji Üretim ve Tic. A.Ş.	05/06/2024	Project implementation and execution, applicability of original baseline, validity of data and parameters,	Anıl Söyler (Team Leader, Technical Expert (TA 1.2 & TA 13.1) & Local Expert)

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
2.	Özden	Mr. Erol	General Manager, Samsun Avdan Enerji Üretim ve Tic. A.Ş.		demonstration of ongoing financial need, organizational structure, training, monitoring plan, the impact of the project activity on the local stakeholders	
3.	Çokşen	Mr. Güven	Enviromental Engineer, Samsun Avdan Enerji Üretim ve Tic. A.Ş.			
4.	Balcı Eriş	Ms. Çağla	Consultant, Rüzgar Danışmanlık			
5.	Genç	Mr. Kamuran	Mukhtar (Village Head), Aşağı Avdan Village		The impact of the project activity on the local stakeholders and effectiveness of grievance mechanism	
6.	Konaklı	Ms. Emine	Villager, Aşağı Avdan Village			
7.	Şener	Mr. Abdullah	Villager, Aşağı Avdan Village			
8.	Öztürk	Mr. Adem	Villager, Aşağı Avdan Village			
9.	Deniz	Mr. Hakan	Villager, Kadamut Village			
10.	Yılmaz	Ms. Dürdane	Villager, Kadamut Village			

The verbal consent by the interviewed stakeholders has been obtained by the CP renewal validation team during the on-site visit and there hadn't been any verbal objection to include their name in the CP renewal validation report.

3.3 Major Milestones in Validation

All the issues raised as CLs and CARs during this CP renewal validation activity, were resolved, during the written and oral communications between the Project Participant(s) and VVB CP renewal validation team members. For the resolution of these non-conformities, the project participants modified the project design, rectified the PDD/07/ or provided adequate additional explanations or evidences that satisfy the concerns of the validation team members.

Concerns raised in the desk review, the on-site assessment, the follow up interviews and the responses provided for the raised concerns are documented to guarantee the transparency of the CP renewal validation process.

The CP renewal validation timeframe is given in detail in below Table 3-2:

Table 3-2: CP Renewal Validation Timeframe

Action	Timeline	
	From	To
Desk Review including review of PDD	01/06/2024	01/06/2024

Action	Timeline	
	From	To
On-site visit	05/06/2024	05/06/2024
Issuance of the initial CP renewal validation findings	28/06/2024	
Review of PPs Initial Set of Responses	13/11/2024	16/11/2024
Closing of all the CARs and CLs	16/11/2024	
Issuance of the Validation Report version 01	20/12/2024	20/12/2024
ITR Process	12/01/2025	27/01/2025
Final completeness check before approval and submission	27/01/2025	29/01/2025
Issuance of the Validation Report version 01.1 (Final version of the report for the submission to GS)	29/01/2025	

3.4 Findings

As an outcome of the CP renewal validation process, the CP renewal validation team can raise different types of findings.

A Clarification Request (CL) is issued if information is insufficient or not clear enough to determine whether the applicable CDM/GS requirements have been met.

Corrective Action Request (CAR) is issued, where:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The CDM/GS requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

A Forward Action Request (FAR) is issued during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM/GS requirements for CP renewal.

Information or clarifications provided as a response to a CAR, CL or FAR could also lead to a new request.

According to these principles, total of 09 CARs and 01 CL were raised all of which are listed and closed out as in Annex-1 of the report. There has been also 01 FAR issued during the CP renewal validation process.

3.5 Internal Quality Control

Following the completion of the assessment process and a recommendation by the assessment team, the validation opinion prepared by Team Leader is independently reviewed by internal Technical Reviewer (TR). TR reviews if all the KBS procedures have been followed and all conclusions are justified in accordance with applicable standards, procedures, guidance and CDM and Gold Standard rules and requirements. The TR either is qualified for the technical area within the sectoral scope(s) applicable to project activity or is supported by qualified independent technical expert at this stage.

The Technical Reviewer will either accept or reject the recommendation made by the assessment team. The findings can be raised at this stage and PP must resolve them within agreed timeline.

The opinion recommended by Technical Reviewer will be confirmed by Manager Technical & Certification and finally authorized by the Director of Climate Change & Sustainability on behalf of KBS Certification Ltd. as the final validation opinion. The Technical Reviewer and Manager T&C maybe be same person.

4. Validation Findings

4.1 Approval

Discussion:

N/A (The project activity is a voluntary project hence there is no need for a Letter of Approval (LoA)).

4.2 Authorization

Discussion:

N/A (The project being a voluntary project does not require authorization from the host country).

4.3 Sustainable Development

As this is a voluntary project, it was not necessary to obtain approval of Sustainable Development from Host party DNA. However, it was confirmed during the on-site interviews and through the estimated outcomes of the project implementation that the project contributes in achieving the SDG 7 & 8 in addition to SDG 13 as required by Principle-1 of GS for Global Goals. The implementation of the project is expected to be resulted in environmental, social and economic benefits such as:

- SDG 7: Affordable and clean energy: 54,600 MWh/year of net electricity is expected to be supplied by the project activity to the grid during the 3rd CP.
- SDG 8: Decent work and economic growth: The project is expected to provide between 20 and 25 employment annually and at least 1 training is planned to be provided to each employee annually during the 3rd CP.
- SDG 13: Climate Action: The total emission reductions from the project are estimated to be 1,938,770 tCO_{2e} during the 3rd CP with an annual average of 276,967 tCO_{2e}.

4.4 Modalities of Communication

Discussion:

N/A (The project being a voluntary GS project, project modalities of communication is not applicable).

4.5 Project Design Document

Discussion:

The validation team hereby confirms that the CP renewal PDD/07/ complies with the latest GS PDD template and its guidance document.

4.6 Project Description

Discussion:

The project is a Landfill Gas ("LFG") to Energy Project, developed by "Samsun Avdan Enerji Üretim ve Tic. A.Ş.", located in the south-west of Samsun city centre. The project activity involves the collection and utilization of the LFG along with the electricity generation with an installed capacity 8.4 MWe. The expected approximate disposed waste amount for the 3rd CP is 572,719 ton/yr, corresponding to an average of 1,569 ton/d. This amount is expected to rise in coming years, reaching 689,158 tonnes in 2032. The electricity produced is fed into the national grid of Türkiye and is transmitted to substation Samsun I TM, 34.5 kV bara.as checked through the generation licence/32/ and as already confirmed during the initial validation. The project is still operational at the time of CP renewal validation and expected technical lifetime is 28 years according to the generation license/12/.

The project was operational as of 09/03/2012 as confirmed through the provided provisional acceptance protocols/38/ and during the initial validation and previous verification periods. The implementation of the 1st phase (2.4 Mwe capacity) was on 09/03/2012, the 2nd phase (1.2 Mwe capacity) was on 27/09/2013, the 3rd phase (2.4 Mwe capacity) was on 27/09/2014 and the 4th phase (2.4 MWe) was on 22/05/2018 and registered on 13/04/2012 under the Gold Standard Registry with the registration number GS 935. There hasn't been any design change of the project activity during the 3rd CP comparing with the registered PDD of 1st CP/01/ and PDD of 2nd CP/02/.

As confirmed through GS registry/41/ and last verification report of 2nd CP/29/, the first crediting period was between 09/02/2011– 08/02/2018, the second crediting period was between 09/02/2018-08/02/2025 and the third crediting period is between 09/02/2025 – 08/02/2032 (both dates are included). The annual emission reduction estimated by the project is 276,967 tCO₂e.

The PP has been granted a 28-year generation license in total (last amendment date is 22/03/2018) by the Turkish Energy Market Regulatory Authority governing the electricity market in the Republic of Türkiye for the proposed Project under the provisions of Electricity Market Law, No: 6446/52/.

Findings:

CAR-1 and CAR-2 were issued regarding this issue and closed out during the CP renewal validation. Please see CAR-1 and CAR-2 in Annex-1 of the report for further details.

Opinion:

It could be confirmed by the validation team that the CP renewal PDD/06/ contains a transparent and accurate description of the project activity and provides reader a clear understanding of the project activity.

4.7 Baseline and Monitoring Methodology

4.7.1 General requirement

Discussion:

The project activity is a large scale “renewable energy” project as per the GS4GG Renewable Energy Activity Requirements version 1.4 /12/ and follows the approved CDM large scale methodologies “ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources” version 22.0/11/ which are the latest version of methodologies applicable at the time of CP renewal validation. The version of the methodologies during the initial validation and crediting period was ACM0001 version 11.0 and ACM0002 version 17.0.

Findings:

CAR-3 was issued regarding this issue and closed out during the CP renewal validation. Please see CAR-3 in Annex-1 of the report for further details.

Opinion:

The applied baseline and monitoring methodology and relevant tools are valid and applicable to the project activity at the time of CP renewal validation. According to “ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources” version 22.0/11/, the latest approved tools shall be referenced in the CP renewal PDD/07/ like, “Tool to calculate the emission factor for an electricity system” version 07.0 /19/ and “Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” version 3.0.1/22/ which are the latest versions of the mentioned tools valid at the time of CP renewal validation and the above tools are applied to in the PDD/07/. Therefore, it could be concluded by the CP renewal validation team that the title, version and reference of the methodology including the associated tools are correct and valid.

4.7.2 Applicability of selected methodology to the project activity

Discussion:

Although the project is already registered Gold Standard project, the project has been assessed against all the applicability conditions justified under Section B.2 of the CP renewal PDD/07/ against the criterion specified in the applied methodologies/11/ as in Table 4-1 and Table 4-2 below, respectively:

Table 4-1: The applicability of the methodology (ACM0002 version 22.0)/11/ and its assessment

Applicability Criteria	Project Activity Status	Assessment by the CP renewal validation team
This methodology is applicable to grid-connected renewable energy power generation project activities that: • Install a Greenfield power plant; • Involve a capacity addition to (an) existing plant(s); • Involve a retrofit of (an) existing operating plants/units; • Involve a rehabilitation of (an) existing plant(s)/unit(s); or • Involve a replacement of (an) existing plant(s)/unit(s). • Install a Greenfield power plant together with a grid-connected Greenfield pumped storage power plant. The greenfield power plant may be directly connected to the PSP or connected to the PSP through the grid.	The project activity involves an installation of the greenfield renewable energy power plant. . Hence, the methodology is applicable to the project activity.	During the interviews during the on-site visit and through the review of generation licence /27/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a 8.624 MWm / 8.4 MWe renewable energy power plant and hence this criterion is applicable.
The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects) the existing plant/unit started commercial operation prior to the	The project activity involves an installation of the greenfield renewable energy power plant. . Hence, the methodology is applicable to the project activity.	Through the interviews during the on-site visit and through the review of the generation licence /27/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a greenfield 8.624 MWm / 8.4 MWe renewable energy power plant and hence this criterion is applicable as in the registered PDD of 1st CP/01/ and registered PDD of 2nd CP/02/.

start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity. (c) In case of Greenfield project activities applicable under paragraph (a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g. by referring to feasibility studies or investment decision documents); (d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). (e) In case the project activity involves PSP, the PSP shall utilize the electricity generated from the renewable energy power plant(s) that is operating in coordination with the PSP during pumping mode		
In case the project activity involves the integration of a Battery Energy Storage System (BESS), the methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Integrate BESS with a Greenfield power plant;	The project does not involve BESS, so this is not applicable.	During the interviews during the on-site visit and through the review of generation licence /27/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a greenfield 8.624 MWm / 8.4 MWe renewable energy power plant project and involves the installation of renewable energy power

(b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic¹ or wind power plant(s)/unit(s); (c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s).		plant and doesn't involve any BESS and hence this criterion is not applicable.
In case of hydro power plants, one of the following conditions shall apply; 1. The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or 2. The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density, calculated using equation (7), is greater than 4 W/m²; or 3. The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m²; or 4. The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m², all of the following	The project activity involves an installation of the greenfield renewable energy power plant. . Hence, the condition is not applicable.	During the interviews during the on-site visit and through the review of the generation licence /27/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a greenfield 8.624 MWm / 8.4 MWe renewable energy power plant and hence this criterion is not applicable.

conditions shall apply: A. The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m²; B. Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; C. Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.		
In the case of integrated hydro power projects, project proponent shall: a. Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or b. Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to	The project activity is not an integrated hydro power project. Hence this criterion does not apply.	During the interviews during the on-site visit and through the review of the generation licence /27/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a greenfield 8.624 MWm / 8.4 MWe renewable energy power plant, so it is not an integrated hydro power project and hence this criterion is not applicable.

optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum of five years prior to the implementation of the project activity.		
In the case of PSP, the project participants shall demonstrate in the PDD that the project is not using water which would have been used to generate electricity in the baseline	The project activity is not a pumped storage project (PSP). Hence this criterion does not apply.	During the interviews during the on-site visit and through the review of the generation licence /27/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a greenfield 8.624 MWm / 8.4 MWe renewable energy power plant, so it is not a pumped storage project (PSP) and hence this criterion is not applicable.
The methodology is not applicable to: a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; b) Biomass fired power plants/units.	The project activity is not a fossil fuel switch project and biomass fired power plant. Hence the condition does not apply.	During the interviews during the on-site visit and through the review of the generation licence /27/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a greenfield 8.624 MWm / 8.4 MWe renewable energy power plant, so it doesn't involve switching from fossil fuels to renewable energy source and biomass fired power plant and hence this criterion is not applicable.
In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual	The project activity is a greenfield project installation and does not involve the capacity addition. Hence, the condition does not apply.	During the on-site interviews during the on-site visit and through the review of generation licence /12/ and provisional acceptance protocols/38/, it could be confirmed by the CP renewal validation team that this is a greenfield 8.624 MWm / 8.4 MWe renewable energy power plant and does not involve any retrofit, rehabilitation, replacement, or capacity addition. Hence, this criterion is not applicable.

maintenance”.		
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Table 4-2: The applicability of the methodology (ACM0001 version 19.0)/11/ and its assessment

Applicability Criteria	Project Activity Status	Assessment by the CP renewal validation team
The methodology is applicable under the following conditions: (a) Install a new LFG capture system in an existing or new (Greenfield) SWDS where no LFG capture system was or would have been installed prior to the implementation of the project activity; or (b) Make an investment into an existing LFG capture system to increase the recovery rate or change the use of the captured LFG, provided that: i. The captured LFG was vented or flared and not used prior to the implementation of the project activity; and ii. In the case of an existing active LFG capture system for which the amount of LFG cannot be collected separately from the project system after the implementation of the project activity and its efficiency is not impacted on by the project system: historical data on the amount of LFG capture and flared is available; (c) Flare the LFG and/or use the captured LFG in any (combination) of the following ways: i. Generating electricity; ii. Generating heat in a boiler, air heater or kiln (brick firing only) or glass melting	a) The project activity involves the installation of a new LFG capture system in a new (Greenfield) SWDS where no LFG capture system was or would have been installed prior to the implementation of the project activity. Hence, this condition is applicable. b) There hasn't been any existing active LFG capture system prior to the implementation of the project activity. Hence, this condition is not applicable. c) The flared LFG has been used for the generating electricity. Hence, the condition in option c-i is applicable.	a) The project activity involves the installation of a new LFG capture system in a new (Greenfield) SWDS where no LFG capture system was or would have been installed prior to the implementation of the project activity as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, generation licence/32/, provisional acceptance protocols/38/, on-site visit observations and handled interviews during the on-site visit. b) There hasn't been any existing active LFG capture system prior to the implementation of the project activity as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, generation licence/32/, provisional acceptance protocols/38/, on-site visit observations and handled interviews during the on-site visit. c) The flared LFG within the context of the project activity has been used for the generating electricity as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/01/, generation licence/32/, provisional acceptance protocols/38/, on-site visit observations and handled interviews during the on-site visit. d) There hasn't been any reduced amount of organic waste that would be recycled in the absence of the project activity as checked and

Applicability Criteria	Project Status	Activity	Assessment by the CP renewal validation team
furnace; and/or iii. Supplying the LFG to consumers through a natural gas distribution network; iv. Supplying compressed/liquefied LFG to consumers using trucks; v. Supplying the LFG to consumers through a dedicated pipeline (d) Do not reduce the amount of organic waste that would be recycled in the absence of the project activity.			confirmed through the review of the Ministry of Environment and Urbanization web site/60/ and Association of Recycling and Recovering Facilities in Türkiye web site/61/ considering the average recycling rate of around 30% in Türkiye whereas around 70% of the waste is sent to the landfill sites, registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, on-site visit observations and handled interviews during the on-site visit.
The methodology is only applicable if the application of the procedure to identify the baseline scenario confirms that the most plausible baseline scenario is: a) Atmospheric release of the LFG or capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons; and b) In the case that the LFG is used in the project activity for generating electricity and/or generating heat in a boiler, air heater, glass melting furnace or kiln: (i) For electricity generation: that electricity would be generated in the grid or in captive fossil fuel fired power plants;	a) The most plausible baseline scenario is the atmospheric release of the LFG. Hence, the condition in option a is applicable. b) The LFG has been used in the project activity for generating electricity and the electricity would be generated in the grid. Hence, the condition in option b-i is applicable. c) There hasn't been any supply of LFG to the end-user(s) through the natural gas distribution network, trucks or the dedicated pipeline within the		a) The most plausible baseline scenario is the atmospheric release of the LFG as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, local and sectoral knowledge of the CP renewal validation team, on-site visit observations and handled interviews during the on-site visit. Besides that, there hasn't been any legal regulation in the host country for the capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odour concerns, or for other reasons as confirmed by the CP renewal validation team through the review of relevant legal regulations and requirements/52/ and through its local and sectoral knowledge.

Applicability Criteria	Project Activity Status	Assessment by the CP renewal validation team
and/or (ii) For heat generation: that heat would be generated using fossil fuels in equipment located within the project boundary; c) In the case of LFG supplied to the end-user(s) through natural gas distribution network, trucks or the dedicated pipeline, the baseline scenario is assumed to be displacement of natural gas. d) In the case of LFG from a Greenfield SWDS, the identified baseline scenario is atmospheric release of the LFG or capture of LFG in a managed SWDS and destruction through flaring to comply with regulations or contractual requirements, to address safety and odor concerns, or for other reasons.	context of the project. Hence, the condition in option c is not applicable. d) The LFG is from a greenfield SWDS and the identified baseline scenario is atmospheric release of the LFG. Hence, the condition in option d is applicable.	b) The LFG has been used in the project activity for generating electricity and the electricity would be generated in the grid as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, generation licence/32/, provisional acceptance protocols/38/, local and sectoral knowledge of the CP renewal validation team, on-site visit observations and handled interviews during the on-site visit. c) There hasn't been any supply of LFG to the end-user(s) through the natural gas distribution network, trucks or the dedicated pipeline within the context of the project as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, generation licence/32/, provisional acceptance protocols/38/, on-site visit observations and handled interviews during the on-site visit. d) The LFG is from a greenfield SWDS and the most plausible baseline scenario is the atmospheric release of the LFG as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, local and sectoral knowledge of the CP renewal validation team, on-site visit observations and

Applicability Criteria	Project Activity Status	Assessment by the CP renewal validation team
		handled interviews during the on-site visit.
This methodology is not applicable: a) In combination with other approved methodologies. For instance, ACM0001 cannot be used to claim emission reductions for the displacement of fossil fuels in a kiln or glass melting furnace, where the purpose of the CDM project activity is to implement energy efficiency measures at a kiln or glass melting furnace; b) If the management of the SWDS in the project activity is deliberately changed during the crediting in order to increase methane generation compared to the situation prior to the implementation of the project activity.	a) The methodology, ACM0001, hasn't been used in combination with any other approved methodology but the ACM0002 has been used for only the electricity generation part. Hence, this condition is applicable and valid for the project. b) The management of the SWDS in the project activity hasn't been changed deliberately during the crediting period in order to increase methane generation	a) The methodology, ACM0001, hasn't been used in combination with any other approved methodology but the ACM0002 has been used for only the electricity generation part as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/. b) The management of the SWDS in the project activity hasn't been changed deliberately during the crediting period in order to increase methane generation compared to the situation prior to the implementation of the project activity as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, local and sectoral knowledge of the CP renewal validation team, on-site visit observations and handled interviews during the on-site visit.

Applicability Criteria	Project Activity Status	Assessment by the CP renewal validation team
	compared to the situation prior to the implementation of the project activity. Hence, this condition is applicable and valid for the project.	

The applicability of the tools has been assessed as in below Table 4-3:

Table 4-3: The applicability of the tools and its assessment

Applicability Criteria	Project Activity Status	Assessment by the CP renewal validation team
Tool 04-Emissions from solid waste disposal sites version 08.1/24/: The tool can be used to determine emissions for the following types of applications: a) Application A: The CDM project activity mitigates methane emissions from a specific existing SWDS. Methane emissions are mitigated by capturing and flaring or combusting the methane (e.g. “ACM0001: Flaring or use of landfill gas”). The methane is generated from waste disposed in the past, including prior to the start of the CDM project activity. In these cases, the tool is only applied for an ex-ante estimation of emissions in the project design document (CDM-PDD). The emissions will then be monitored during the crediting period using the applicable approaches in the relevant methodologies (e.g. measuring the amount of methane captured from the SWDS); b) Application B: The CDM project activity avoids or involves the disposal of waste at a SWDS. An example of this application of the tool is ACM0022, in which municipal solid waste (MSW) is treated with an alternative option, such as composting or anaerobic digestion, and is then prevented from being disposed	a) The Application A has been employed for the project activity considering that it mitigates methane emissions from a specific existing SWDS and the methane emissions are mitigated by capturing and flaring or combusting the methane in line with ACM0001 version 19.0/10/.	a) The Application A has been employed for the project activity considering that it mitigates methane emissions from a specific existing SWDS and the methane emissions are mitigated by capturing and flaring or combusting the methane in line with ACM0001 version 19.0/10/ as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, ER Calculation Excel Spreadsheet/10/ and on-site visit observations.

of in a SWDS. The methane is generated from waste disposed or avoided from disposal during the crediting period. In these cases, the tool can be applied for both ex-ante and ex-post estimation of emissions. These project activities may apply the simplified approach detailed in 0 when calculating baseline emissions.		
In the case that: a) different types of residual waste are disposed or prevented from disposal; or that b) both MSW and residual waste(s) are prevented from disposal, then the tool should be applied separately to each residual waste and to the MSW.	The only MSW has been included within the context of the project activity. Hence, this condition is not applicable.	The only MSW has been included within the context of the project activity as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, generation licence/32/, on-site visit observations and handled interviews during the on-site visit.
Tool 06: Project emissions from flaring version 4.0/25/: a) This tool provides procedures to calculate project emissions from flaring of a residual gas. The tool is applicable to enclosed or open flares and project participants should document in the PDD the type of flare used in the project activity b) This tool is applicable to the flaring of flammable greenhouse gases where: (i) Methane is the component with the highest concentration in the flammable residual gas; and (ii) The source of the residual gas is coal mine methane or a gas from a biogenic source	a) The tool is applicable to calculate the project emissions from flaring of a residual gas within the context of the project activity, if any, and it is applicable. The type of the flare is enclosed flare. b) The methane is the component with the highest concentration in the flammable LFG and the source of the same is LFG. Hence, this condition is applicable.	a) The tool is applicable to calculate the project emissions from flaring of a residual gas within the context of the project activity, if any, as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/ and ER Calculation Excel Spreadsheet/10/. The type of the flare is enclosed flare as checked and confirmed through the review of PDD of 3rd CP/07/, technical note by Conveco (the flare manufacturer)/48/ and on-site visit observations. b) The methane is the component with the highest concentration in the flammable LFG and the source of the same is LFG as checked and confirmed through the review of the registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/,

(e.g. biogas, landfill gas or wastewater treatment gas). c) The tool is not applicable to the use of auxiliary fuels and therefore the residual gas must have sufficient flammable gas present to sustain combustion. In the case of an enclosed flare, there shall be operating specifications provided by the manufacturer of the flare and these shall be followed by the PP.	c) The tool has been applied only for the residual gas. The flare is enclosed flare and the operating specifications provided by the manufacturer of the flare will be followed by the PP during the 3rd CP as in the 1st and 2nd CP.	Summary Waste Flow Analysis and Technical Survey Report/34/, on-site visit observations and handled interviews during the on-site visit. c) The tool has been applied only for the residual gas as checked and confirmed through the review of PDD of 3rd CP/07/. The flare is enclosed flare and the operating specifications provided by the manufacturer of the flare will be followed by the PP during the 3rd CP as in the 1st and 2nd CP as checked and confirmed through the review of PDD of 3rd CP/07/, registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/, technical note by Conveco (the flare manufacturer)/48/ and on-site visit observations and handled interviews during the on-site visit.
Tool 05: “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation” version 03.0/23/: a) If emissions are calculated for electricity consumption, the tool is only applicable if one out of the following three scenarios applies to the sources of electricity consumption: (i) Scenario A: Electricity consumption from the grid. The electricity is purchased from the grid only, and either no captive power plant(s) is/are installed at the site of electricity consumption or, if any captive power plant exists on site, it is either not	There is a backup captive off-grid diesel electricity generator available within the context of the project activity and it has been used only in the emergency cases and can't provide electricity to the electricity consumer. Thus, Scenario A is applicable to the project activity. The electricity is consumed mainly through the grid within the context of the project activity. Thus, Scenario B is not applicable to the	There is a backup captive off-grid diesel electricity generator available within the context of the project activity and it has been used only in the emergency cases and can't provide electricity to the electricity consumer. The electricity is consumed mainly through the grid within the context of the project activity as checked and confirmed by the CP renewal validation team through the on-site visit observations, handled interviews during the on-site visit and technical and sectoral knowledge of the team.

operating or it is not physically able to provide electricity to the electricity consumer; (ii) Scenario B: Electricity consumption from (an) off-grid fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants are installed at the site of the electricity consumer and supply the consumer with electricity. The captive power plant(s) is/are not connected to the electricity grid; or (iii) Scenario C: Electricity consumption from the grid and (a) fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants operate at the site of the electricity consumer. The captive power plant(s) can provide electricity to the electricity consumer. The captive power plant(s) is/are also connected to the electricity grid. Hence, the electricity consumer can be provided with electricity from the captive power plant(s) and the grid.	project activity. The electricity is consumed mainly through the grid within the context of the project activity and the backup captive off-grid diesel electricity generator is not connected to the grid. Thus, Scenario C is not applicable to the project activity.	
Tool 03: “Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion” version 3.0/21/: This tool provides procedures to calculate project and/or leakage CO₂ emissions from the combustion of fossil fuels. It can be used in	This tool is used to determine the associated project emissions from the consumption of diesel (through the backup off-grid electricity generator) and the	This tool has been used to determine the associated project emissions from the consumption of diesel (through the backup off-grid electricity generator) by the PP and the same is applicable as checked and confirmed by the validation team through the review of the review of PDD of 3rd CP/02/,

cases where CO ₂ emissions from fossil fuel combustion are calculated based on the quantity of fuel combusted and its properties. Methodologies using this tool should specify to which combustion process j this tool is being applied.	same is applicable for the project activity.	registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/ and applied methodology, ACM0001 version 19.0/11/.
Tool 08:"Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 3.0/26/: Typical applications of this tool are methodologies where the flow and composition of residual or flared gases or exhaust gases are measured for the determination of baseline or project emissions.	The measurement of the flow and composition of residual or flared gases is required by the applied methodology/03/. Therefore, this condition is applicable.	The measurement of the flow and composition of residual or flared gases is required as checked and confirmed by the CP renewal validation team through the review of the applied methodology, ACM0001 version 19.0/11/.
Methodologies where CO ₂ is the particular and only gas of interest should continue to adopt material balances as the means of flow determination and may not adopt this tool as material balances are the cost-effective way of monitoring flow of CO ₂ .	The methane (CH ₄) is the main gas of interest in line with the project activity. Therefore, this condition is not applicable.	The methane (CH ₄) is the main gas of interest in line with the project activity as checked and confirmed by the CP renewal validation team through the review of the review of PDD of 3rd CP/07/, registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/ and applied methodology/11/.
The underlying methodology should specify: (a) The gaseous stream the tool should be applied to; (b) For which greenhouse gases the mass flow should be determined; (c) In which time intervals the flow of the gaseous stream should be measured; and (d) Situations where the simplification offered for calculating the molecular mass of the gaseous stream (equations (3) or (17) in the tool) is not valid (such as the gaseous stream is predominantly composed of a gas other than N ₂)	(a) The gaseous streams the tool should be applied to are the quantities of methane flared and used in the project ($F_{CH_4,PJ,y}$) in line with the applied methodology/03/. Therefore, this condition is applicable. (b) The relevant greenhouse gas is methane (CH ₄) in line with the applied methodology/03/. Therefore, this condition is applicable.	(a) The gaseous streams the tool should be applied to are the quantities of methane flared and used in the project ($F_{CH_4,PJ,y}$) as checked and confirmed by the CP renewal validation team through the review of the applied methodology, ACM0001 version 19.0/11/. (b) The relevant greenhouse gas is methane (CH ₄) as checked and confirmed by the CP renewal validation team through the review of the applied methodology, ACM0001 version 19.0/11/. (c) The mass flow should be calculated on an hourly basis for each hour h

	(c) The mass flow should be calculated on an hourly basis for each hour h in year y for the methane (CH₄) in line with the applied methodology/03/. (d) The simplification offered for calculating the molecular mass of the gaseous stream is valid (equations (3) or (17) in the tool) in line with the applied methodology/03/.	in year y for the methane (CH₄) as checked and confirmed by the CP renewal validation team through the review of the applied methodology, ACM0001 version 19.0/11/. (d) The simplification offered for calculating the molecular mass of the gaseous stream is valid (equations (3) or (17) in the tool) as checked and confirmed by the CP renewal validation team through the review of the applied methodology, ACM0001 version 19.0/11/.
Tool 32: “Positive lists of technologies” version 4.0/20/: The use of this methodological tool is not mandatory for the project participants of a CDM project activity or CDM PoA for demonstrating their additionality.	The tool is not mandatory for the project activity.	The tool is not mandatory for the project activity as checked and confirmed through the review of the review of PDD of 3rd CP/07/, registered PDD of 1st CP/01/ and registered PDD of 2nd CP/02/.
This methodological tool shall be applied in conjunction with a small-scale or large-scale methodology which refers to this tool.	This tool has been applied in conjunction with the applied large scale methodology, ACM0001 version 19.0/11/.	This tool has been applied in conjunction with the applied large scale methodology, ACM0001 version 19.0/11/ as checked and confirmed by the CP renewal validation team through the review of the review of PDD of 3rd CP/07/, registered PDD of 1st CP/01/, registered PDD of 2nd CP/02/ and the applied methodology, ACM0001 version 19.0/11/.
The positive lists as contained in section 5 of this tool are valid up to 10 March 2025. Notwithstanding the provisions on the validity of new, revised and previous versions of methodologies and methodological tools in the “Procedure: Development, revision and clarification of baseline and monitoring methodologies and	The positive list is valid at the time of CP renewal validation.	The positive list is valid at the time of CP renewal validation as checked and confirmed by the CP renewal validation team through the review of the PDD of 3rd CP/07/ and applied methodology, ACM0001 version 19.0/11/.

methodological tools”, there will be no grace period for the application of this tool and the validity of the positive list after this date, including in cases where further technologies are added to the positive list through revisions of this tool before this date.		
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Applicability of Tool 09: “Determining the baseline efficiency of thermal or electric energy generation systems” version 3.0: The project activity does not encompass and involve any improvement of energy efficiency of an existing system or replacement of an existing system by a new system. Thus, this tool referred in the applied methodology/03/ is not applicable for the project activity.

Applicability of Tool 12: “Project and leakage emissions from transportation of freight” version 1.1: The project does not involve any transportation of freight. Thus, this tool referred in the applied methodology/11/ is not applicable for the project activity.

Applicability of Tool 02: Combined tool to identify the baseline scenario and demonstrate additionality version 07.0: This tool is applicable as already referred in the applied methodologies, ACM0001 version 19.0 and ACM0002 version 22.0/11/ but the project activity falls into the positive list category as included in the Section 5.1.1 option a of the Tool 32: Positive lists of technologies version 4.0/20/ and Section 5.3.1 of ACM0001 version 19.0/11/ and this tool has not been used within the context of the project activity.

Applicability of Tool 07: Tool to calculate the emission factor for an electricity system, Version 07.0/19/: This tool has not been used directly since the operating margin (OM) emission factor ($EF_{grid,OM,y}$), build margin (BM) emission factor ($EF_{grid,BM,y}$) and combined margin emission factor ($EF_{grid,CM,y}$) had been calculated by the Ministry of Energy and Natural Resources in Türkiye in line with the “Tool 07: Tool to calculate the emission factor for an electricity system” version 07.0/19/ as detailed in the Section 4.7.4 of this report.

Applicability of Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, Version 3.0.1 /22/: The applicability of this tool has been checked and assessed in the Section 4.7.4 of this report.

Findings:

CAR-3 was issued regarding this issue and closed out during the CP renewal validation. Please see CAR-1 in Annex-1 of the report for further details.

Opinion:

It can be concluded through the document review and on- site visit observations by the CP renewal validation team that the project meets all the applicability criteria established in the applied methodologies/11/. That means, KBS confirms that the selected baseline methodology including the associated tools is applicable to the project activity, the applicability criteria of the methodology and associated tools have been met and “ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources” version 22.0/11/ will be valid at the time of submission of the project activity for CP renewal.

4.7.3 Project boundary

Discussion:

The project boundary of the project activity includes the site where the LFG is captured and the site where the LFG is flared or used (i.e. flare and power plant and the 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 in accordance with ACM0001 version 19.0/11/.

The project boundary has been defined in accordance with ACM0002 version 22.0/11/ which states that, “the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the project power plant is connected to”.

Therefore, there is no change with the boundary of the project during the third crediting period of the project as confirmed through the document review including registered PDD of 1st CP, PDD of 2nd CP/02/, generation licence/32/ and on- site visit observations.

Findings:

No findings were raised.

Opinion:

It can be concluded through the document review and on- site visit observations by the CP renewal validation team that the boundary has been defined in line with the applied methodologies/11/ and there is no change with the boundary of the project during the third crediting period. It could also be confirmed by the CP renewal validation team that all GHG sources required by the methodology have been included within the project boundary and the project boundary is appropriately identified through the desk review and onsite inspection of the implemented project.

4.7.4 Baseline identification

Discussion:

The project activity was earlier registered using the methodologies ACM0001 Version 18.0 and ACM0002 Version 17.0. The CP renewal PDD/07/ has been revised for the third crediting period according to the applied methodologies, “ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources” version 22.0/11/, and the latest applicable PDD template. All the applicability conditions of the methodology have been justified appropriately in the CP renewal PDD/07/.

There has been no significant change in the relevant policies and circumstances, which would impact the baseline scenario since 21/01/2020 (date of registered CP renewal PDD/01/) till date. The CP renewal PDD/07/ takes into account all the relevant national and sectoral policies and circumstances that were applicable as on 22/01/2025. The discussion on the same has also been provided in the CP renewal PDD/07/.

The steps from the Methodological Tool “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 /22/ were also applied to assess the continued validity of the baseline and/or to update the baseline at the renewal of a crediting period:

Step 1: Assess the validity of the current baseline for the next crediting period

It is required that the impact of new relevant national and/or sectoral policies and circumstances on the baseline. The validity of the current baseline is assessed using the following sub-steps:

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy, No: 5346, ratified on 10/05/2005 by Grand National Assembly of Türkiye, enacted on 18/05/2005 /52/, Electricity Market Law, No: 6446, ratified on 14/03/2013 by Grand National Assembly of Türkiye, enacted on 30/03/2013 /52/, Environment Law, No: 2872, ratified on 09/08/1983 by Grand National Assembly of Türkiye, enacted on 11/08/1983 /52/, Forest Law, No: 6831, ratified on 31/08/1956 by Grand National Assembly of Türkiye, enacted on 08/09/1956 /52/ and EIA Regulation, ratified by President of Türkiye, enacted on 25/11/2014 /52/ Regulation on the Management of Waste Oil (<https://www.resmigazete.gov.tr/eskiler/2019/12/20191221-1.htm>) /52/, Regulation on Control of Hazardous Wastes (<https://www.resmigazete.gov.tr/eskiler/2005/03/20050314-1.htm>) /52/, Regulation on Waste Management (<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5>) /52/, Regulation on Control of Industrial Air Pollution (<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=13184&MevzuatTur=7&MevzuatTertip=5>)/52/ have

been still applicable in Türkiye and there are no significant changes which can impact the baseline scenario. There are no new relevant national and/or sectoral policies and/or circumstances in the electricity generation sector applicable to the project activity, in comparison to the time of the submission of the project activity for validation, which would affect the compliance of the current baseline scenario. Therefore, in the absence of the project activity electricity would still have been generated in the existing fossil fuel power plants or by the addition of new fossil fuel power plants connected to the Turkish national grid and LFG would have been released to the atmosphere or would have been captured of LFG and would have been destructed through the flaring.

KBS confirms that no relevant mandatory national and/or sectoral policies applicable to the project activity came into effect after the submission of the project activity for CP renewal validation.

Step 1.2: Assess the impact of circumstances

Through the document review including the CP renewal PDD/07/ for the third crediting period and local and sectoral knowledge of the CP renewal validation team, it could be confirmed that the electricity generation is predominantly composed by fossil fuel fired power plants and the LFG is released to the atmosphere or is captured and destructed through the flaring in Türkiye which is the same situation at time of initial validation. Therefore, the main market characteristics have no change. As the project is under normal operation which is in line with the original design thereby the condition used to determine baseline emissions in the initial crediting period is still valid.

Step 1.3: Assess 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

No new additional investment from the project proponent or a third party (or parties) has been envisioned later specifically for the project. There is no change with respect to the technology and installed capacity of the project. Therefore, it could be confirmed by the CP renewal validation team that the baseline scenario in the initial and second crediting periods are still valid and this step is not applicable.

Step 1.4: Assessment of the validity of the data and parameters

The grid emission factor ($EF_{grid,CM,y}$) calculated ex-ante for the first crediting period needs to be updated, as per the “Tool to calculate the emission factor for an electricity system” version 07.0/19/.

Conclusion on step 1:

KBS confirms that the current baseline is still valid as per applied methodologies (“ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources” version 22.0/11/). However, the grid emission factor ($EF_{grid,CM,y}$) needs to be updated for the subsequent crediting period.

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

Step 2.1: Update the current baseline

As the baseline scenario of the project activity is still sustained in this crediting period, no update would be required.

Step 2.2: Update the data and parameters

For the calculation of grid emission factor ($EF_{grid,CM,y}$) in Türkiye Tool07: Tool to Calculate the Emission Factor for an Electricity System”, version 07 /19/ has been used and the same has been published by the relevant governmental authority, Ministry of Energy and Natural Resources in Türkiye and the latest data belongs to 2022.

The operating margin (OM) emission factor ($EF_{grid,OM,y}$) is calculated as 0.7108 tCO₂/MWh by the Ministry of Energy and Natural Resources in Türkiye as in the following link:

https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf /27/

Similarly, build margin (BM) emission factor ($EF_{grid,BM,y}$) is calculated as 0.3721 tCO₂/MWh by the Ministry of Energy and Natural Resources in Türkiye as in the following link:

https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf /27/

Finally, the combined margin emission factor ($EF_{grid,CM,y}$) has been calculated in line with the “Tool 07: Tool to calculate the emission factor for an electricity system” version 07.0/19/ and the same ($EF_{grid,CM,y}$) is calculated by the Ministry of Energy and Natural Resources in Türkiye as 0.5415 tCO₂/MWh for the third crediting period as in the following link:

https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf /27/

That means, the application of the aforesaid tool has been checked by the CP renewal validation team and it could be that it has been correctly applied.

KBS also confirms that the Turkish grid emission factor has been calculated to be in line with the “Tool to calculate the emission factor for an electricity system”, version 07.0/19/.

Findings:

CAR-4 was issued regarding this issue and closed out during the CP renewal validation. Please see CAR-1 in Annex-1 of the report for further details.

Opinion:

The assessment of the applied baseline suggests that the baseline methodology has been correctly applied and the most appropriate and conservative baseline scenario has been selected for the third crediting period:

- a) All data and values used by the project proponent have been listed and referenced in the CP renewal PDD/07/ including their sources;
- b) Relevant documents have been used have been used for the establishment of baseline scenario, interpreted appropriately;
- c) All the relevant national and sectoral policies and circumstances have been considered;
- d) The applied methodology’s applicability has been found in accordance and the baseline identification has been found appropriate by the CP renewal validation team.
- e) The relevant justification has been provided in the CP renewal PDD/07/.

Therefore, it can be concluded that the baseline scenario has not changed and continues to be the same as earlier, as follows: “Atmospheric release of the LFG or capture of LFG and destruction through flaring to comply with regulations or contractual requirements, to address safety and odor concerns, or for other reasons” and “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources” and during the third crediting period.

It could also be concluded through the document review by the CP renewal validation team that the baseline has been defined in line with the applied methodologies/04/ and there is no expected change with the baseline of the project during the third crediting period comparing with the initial one. Besides that, step wise approach in the Tool “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 /22/ has been followed by PP and the same has been checked and confirmed by the CP renewal validation team.

4.7.5 Algorithms and/or formulae used to estimate SDG outcomes

Discussion:

SDG-7: Contribution

SDG-7 Target 7.2 Indicator 7.2.1:

The project is expected to generate net electricity of 54,600 MWh annually and the same has been checked through the Environmental and Technical Summary Report/37/. This value will be monitored continuously and recorded monthly by the electricity meters that belong to TEIAS, Turkish Electricity Transmission company. The main source of generation data is EPIAS (the financial settlement center of TEIAS) records. The quantity of net electricity delivered to the grid is cross checked with the meter reading records of TEIAS meters.

There are two electricity meters, one main meter and one back up meter. All meters are inspected and sealed by TEIAS before the commissioning of the power plant in order to be protected from interference by any of the parties and the relevant information about the electricity meters including the serial numbers have been provided by the PP. The periodic calibration of the meters will be done every 10 years after the initial assembly of the meters as in the initial validation and in line with the relevant legal regulation^{1/52/} but there will be also periodic meter tests handled by TEIAS or by the accredited entities on behalf of TEIAS.

The currently available electricity meters are as follows at the time of CP renewal validation as in Table 4-2 below as checked and confirmed through the meter test protocols/30/ and during the on-site visit:

Table 4-2: Electricity meters details

Meter type	Meter model	Serial number	Accuracy class	Last meter test date
Main meter	Makel C510.AMT.5851.RS485	65001340	0.5s	07/09/2016
Back-up meter	Elster A1500	00436730	0.5s	02/12/2021

Baseline situation:

In baseline situation, there is no renewable electricity generation. Therefore, baseline outcome benefit is zero.

Project situation:

The net electricity from the project will be measured through the electricity meters which have been controlled and maintained by TEIAS. The project is expected to generate net electricity of 54,600 MWh annually and 382,200 MWh totally during the third crediting period.

SDG 8: Contribution

SDG 8 Target 8.8 Indicator 8.8.2: Quantitative employment and income generation

SDG 8 Target 8.8 Indicator 8.8.2: Quality of employment

The number of employment is monitored through the social security records/46/. The project is expected to provide between 20 and 25 employment and at least 1 training for each employee annually during the third crediting period. The target will be monitored by the number of full-time employees with the social security records/46/ during the verification process.

The positions at the LFG projects require skilled workers, which will be achieved by adequate training. Training attendance records or training certificates will be provided during the verification process. The project provides workers with a safe and healthy work environment.

Baseline situation:

¹ <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5>

In baseline situation, no new job created and there is no training. Therefore, baseline outcome benefit is zero.

Project situation:

In project situation, the number of created jobs will be recorded by the PP and between 20 and 25 employment is expected to be provided. Besides that, at least 1 training for each employee annually during the third crediting period.

The number of created jobs (between 20 and 25 employment) and number of trainings (at least 1 training for each employee annually) are expected to be provided during the third crediting period as part of the SDG 8 contribution of the project activity.

SDG-13: Contribution

SDG 13 Target 13.2 Indicator 13.2.2:

The baseline emissions, project emissions, leakage and emission reductions have been determined as part of the project's SDG 13 contribution as detailed in below and annual emission reduction estimated by the project is 276,967 tCO₂e (as GS VERs) during the 3rd CP.

a) Baseline emissions:

Baseline emissions comprise the following sources in line with ACM0001 version 19.0/11/:

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

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

Where:

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

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

$BE_{EC,y}$: Baseline emissions associated with electricity generation in year y (tCO₂/yr)

$BE_{HG,y}$: Baseline emissions associated with heat generation in year y (t CO₂/yr)

$BE_{NG,y}$: Baseline emissions associated with natural gas use in year y (tCO₂/yr)

Baseline emissions of methane from the SWDS ($BE_{CH_4,y}$):

The baseline emissions of methane from the SWDS ($BE_{CH_4,y}$) have been calculated in line with ACM0001 version 19.0/11/:

$$BE_{CH_4} = \left((1 - OX_{top_layer}) \times F_{CH_4,PJ,y} - F_{CH,BL,y} \right) \times GWP_{CH_4}$$

Where:

$BE_{CH_4,y}$: Baseline emissions of methane from the SWDS in year y (tCO₂e/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 (tCH₄/yr)

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

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

Accordingly, the ex-ante estimate of $F_{CH4,PJ,y}$ is has been determined as follows in line with ACM0001 version 19.0/11/:

$$F_{CH4,PJ,y} = \eta_{PJ} \times BE_{CH4,SWDS,y} / GWP_{CH4}$$

Where:

$F_{CH4,PJ,y}$: Amount of methane in the LFG which is flared and/or used in the project activity in year y (tCH₄/yr)

$BE_{CH4,SWDS,y}$: Amount of methane in the LFG that is generated from the SWDS in the baseline scenario in year y (tCO₂e/yr)

η_{PJ} = Efficiency of the LFG capture system that will be installed in the project activity

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

$BE_{CH4,SWDS,y}$ has been determined using the “Tool 04: Emissions from solid waste disposal sites” version 08.1” /24/:

$$\left. \begin{array}{l} BE_{CH4,SWDS,y} \\ PE_{CH4,SWDS,y} \\ LE_{CH4,SWDS,y} \end{array} \right\} = \varphi_y \times (1 - f_y) \times GWP_{CH4} \times (1 - OX) \times \frac{16}{12} \times F \times DOC_{f,y} \\ \times MCF_y \times \sum_{x=1}^y \sum_j (W_{j,x} \times DOC_j \times e^{-k_j \times (y-x)} \times (1 - e^{-k_j}))$$

Where, for the yearly model:

$BE_{CH4,SWDS,y}$ $PE_{CH4,SWDS,y}$ $LE_{CH4,SWDS,y}$: 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 (tCO₂e/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)

$W_{j,x}$: Amount of solid waste type j disposed or prevented from disposal in the SWDS in the year x (t)

φ_y : Model correction factor to account for model uncertainties for year y

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)

F : Fraction of methane in the SWDS gas (volume fraction)

MCF_y : Methane correction factor for year y

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

Determining the model correction factor (ϕ_y):

If baseline emissions are being calculated, the following two options could be used to calculate ϕ_y in line with the “Tool 04: Emissions from Solid Waste Disposal Sites” version 08.1/24/:

- Option 1: Use a default value
- Option 2: Determine ϕ_y based on specific situation of the project activity.

Accordingly, Option 1 has been chosen by the PP and ϕ_y is 0.75 in line with the Samsun climate and meteorological data web site (<https://en.climate-data.org/asia/Turkiye/samsun/samsun-268/>)^{62/} corresponding to the Application A and humid and wet conditions in the “Tool 04: Emissions from Solid Waste Disposal Sites” version 08.1/24/ with the mean annual temperature around 14.6°C and the mean annual precipitation around 723.2 mm per year.

Determining the amounts of waste types j disposed in the SWDS ($W_{j,x}$ or $W_{j,i}$):

Where different waste types j are disposed or prevented from disposal in the SWDS (for example, in the case of MSW) it is necessary to determine the amount of different waste types ($W_{j,x}$ or $W_{j,i}$).

In the case that only one type of waste is disposed (for example, in the case of a residual waste), then $W_{j,x} = W_x$ and the following procedures do not need to be applied (e.g. waste sampling is not required).

Only municipal solid waste is disposed in the SWDS. Therefore, $W_{j,x} = W_x$ and the same has been confirmed by the CP renewal validation team through the review of the registered PDD of 1st CP/01/, PDD of 2nd CP/02/, PDD of 3rd CP/07/, on-site visit observations and handled interviews during the on-site visit.

Determining the fraction of DOC that decomposes in the SWDS ($DOC_{f,y}$):

In the case that the “Tool 04: Emissions from Solid Waste Disposal Sites” version 08.1/24/ is applied to MSW, the PP may choose to either apply a default value ($DOC_{f,y} = DOC_{f,default}$) or to determine $DOC_{f,y}$ based on measurements of the biochemical methane potential of the MSW (BMP_{MSW}).

The default value has been chosen by the PP and $DOC_{f,default}$ is 0.5 as checked and confirmed by the validation team through the review of “Tool 04: Emissions from Solid Waste Disposal Sites” version 08.1/24/.

Procedure to determine the methane correction factor (MCF_y):

Since there is no water table above the bottom of the SWDS and the project activity applying Application A, MCF has been selected as the default value which is 1. The value has been checked and confirmed by the validation team through the review of “Tool 04: “Emissions from solid waste disposal sites” version 08.1/24/ corresponding to the anaerobic managed solid waste disposal sites, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories/65/ and through the on-site visit observations confirming the project site having control of fire, cover material and levelling of waste.

Accordingly, first order decay (FOD) model of the “Tool 04: “Emissions from solid waste disposal sites” version 08.1/04/ has been applied by PP and the same has been checked and found to be appropriate and correct by the CP renewal validation team.

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

The baseline emissions associated with electricity generation ($BE_{EC,y}$) has been calculated by equation no. 3 of the ACM0002 version 22.0/11/ as in the same approach of the registered PDD of 1st CP/01/ and PDD of 2nd CP/02/:

$$BE_{EC,y} = EG_{PJ,y} * EF_{grid,CM,y}$$

Where,

$BE_{EC,y}$: Baseline emissions associated with electricity generation in year y (tCO₂e)

$EG_{PJ,y}$ or $EG_{facility,y}$: 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)

$EF_{grid,CM,y}$: Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"/19/ (tCO₂/MWh)

$EG_{PJ,y}$ ($EG_{facility,y}$) will be calculated as a difference between the measured values of export to grid and import from grid, which are sourced from monthly EPIAS records.

$EF_{grid,CM,y}$ is the grid emission factor, 0.5415 tCO₂/MWh, published by Turkish Ministry of Energy and Natural Resources/27/ and will be fixed ex-ante during the third crediting period.

Therefore, annual average baseline emissions associated with electricity generation ($BE_{EC,y}$) for the project activity are expected to be as follows during the third crediting period:

$$BE_{EC,y} = EG_{facility,y} * EF_{grid,CM,y} = 54,600 * 0.5415 = 29,565 \text{ tCO}_2\text{e}$$

Baseline emissions associated with heat generation ($BE_{HG,y}$):

There hasn't been any heat generation within the context of the project activity. Therefore, the baseline emissions associated with heat generation ($BE_{HG,y}$) are 0.

Baseline emissions associated with natural gas use ($BE_{NG,y}$):

There hasn't been any natural gas use within the context of the project activity. Therefore, the baseline emissions associated with the natural gas use ($BE_{NG,y}$) are 0.

As a result, the baseline emissions have been calculated as follows:

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

Where:

BE_y : Baseline emissions in year y (tCO₂e)

$BE_{CH_4,t,y}$: Baseline emissions of methane from the SWDS in year y (tCO₂e)

$BE_{EC,t,y}$: Baseline emissions associated with energy generation in year y (tCO₂)

Accordingly, the ex-ante baseline emissions have been calculated as follows for the 3rd CP as checked and confirmed by the CP renewal validation team through the ER Calculation Excel Spreadsheet/10/:

Baseline Emissions	2025 (09/02/2025- 31/12/2025)	2026	2027	2028	2029	2030	2031	2032 (01/01/2032- 08/02/2032)
$BE_{CH_4,t,y}$ (tCO ₂ e)	181,193	216,628	230,810	245,463	260,635	276,372	292,721	27,993
$BE_{EC,t,y}$ (tCO ₂)	26,406	29,565	29,565	29,565	29,565	29,565	29,565	3,159
BE_y (tCO ₂ e)	207,599	246,193	260,375	275,028	290,200	305,937	322,286	31,152

b) Project emissions:

The project activity involves the generation of electricity by the renewable source. Therefore, the generation of electricity does not result in greenhouse gas emissions and so, the project emission is taken as 0 tCO₂e / year in line with ACM0002 version 22.0/11/.

The project emissions are calculated as follows in line with ACM0001 version 19.0/11/:

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

Where:

PE_y : Project emissions in year y (tCO₂/yr)

$PE_{EC,y}$: Emissions from consumption of electricity due to the project activity in year y (tCO₂/yr)

$PE_{FC,y}$: Emissions from consumption of fossil fuels due to the project activity, for purpose other than electricity generation, in year y (tCO₂/yr)

$PE_{DT,y}$: Emissions from the distribution of compressed/liquefied LFG using trucks, in year y (tCO₂/yr)

$PE_{SP,y}$: Emissions from the supply of LFG to consumers through a dedicated pipeline, in year y (tCO₂/yr)

Project emissions from electricity consumption ($PE_{EC,y}$):

The project emissions from consumption of electricity by the project activity ($PE_{EC,y}$) is calculated using the “Tool 05: Tool to calculate baseline, project and/or leakage emissions from electricity consumption” version 03.0/23/:

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

Where:

$PE_{EC,y}$: Project emissions for electricity consumption in year y (tCO₂/yr)

$EC_{PJ,j,y}$: Quantity of electricity consumed by the project electricity consumption sources j in y (MWh/yr)

$EF_{EL,j,y}$: Emission factor for electricity generation for source j in year y (tCO₂/MWh)

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

j: Sources of electricity consumption in the project

The project emissions from electricity consumption ($PE_{EC,y}$) has been estimated as 0 for the ex-ante purposes. For ex-post calculation, this emission source, if any, will be taken into account by PP during the monitoring periods of the 3rd CP.

Project emissions from fossil fuel consumption ($PE_{FC,y}$):

The project emissions from fossil fuel combustion ($PE_{FC,j,y}$) is calculated using the “Tool 03: Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion” version 3.0/21/:

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

Where:

$PE_{FC,j,y}$: CO₂ emissions from fossil fuel combustion in process j during the year y (tCO₂/yr)

$FC_{i,j,y}$: The quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)

$COEF_{i,y}$: CO₂ emission coefficient of fuel type i in year y (tCO₂/mass or volume unit)

i : The fuel types combusted in process j during the year y

The project emissions from fossil fuel combustion ($PE_{FC,j,y}$) has been estimated as 0 for the ex-ante purposes. For ex-post calculation, this emission source, if any, will be taken into account by PP during the monitoring periods of the 3rd CP.

Project emissions from the distribution of compressed/liquefied LFG using trucks ($PE_{DT,y}$):

There haven't been any emissions from the distribution of compressed/liquefied LFG using trucks ($PE_{DT,y}$) considering the context of the project activity. Therefore, the project emissions from the distribution of compressed/liquefied LFG using trucks ($PE_{DT,y}$) are 0.

Project emissions from the supply of LFG to consumers through a dedicated pipeline ($PE_{SP,y}$):

There haven't been any emissions from the supply of LFG to consumers through a dedicated pipeline ($PE_{SP,y}$) considering the context of the project activity. Therefore, the project emissions from the supply of LFG to consumers through a dedicated pipeline ($PE_{SP,y}$) are 0.

Therefore, the project emissions are calculated as follows:

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

Where:

PE_y : Project emissions in year y (tCO₂/yr)

$PE_{EC,y}$: Emissions from consumption of electricity due to the project activity in year y (tCO₂/yr)

$PE_{FC,y}$: Emissions from consumption of fossil fuels due to the project activity, for purpose other than electricity generation, in year y (tCO₂/yr)

Project emissions from flaring of landfill gas in year y ($PE_{flare,y}$):

The 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 ($F_{CH4,RG,m}$) and the flare efficiency ($\eta_{flare,m}$), as follows using the "Tool 06: Project emissions from flaring" version 4.0/25/:

$$PE_{flare,y} = GWP_{CH4} \times \sum_{m=1}^{525600} F_{CH4,RG,m} \times (1 - \eta_{flare,m}) \times 10^{-3}$$

Where:

$PE_{flare,y}$: Project emissions from flaring of the residual gas in year y (tCO₂e)

GWP_{CH4} : Global warming potential of methane valid for the commitment period (tCO₂e/tCH₄)

$F_{CH4,RG,m}$: Mass flow of methane in the residual gas in the minute m (kg)

$\eta_{flare,m}$: Flare efficiency in the minute m

The project emissions from flaring of the residual gas ($PE_{flare,y}$) has been estimated as 0 for the ex-ante purposes. For ex-post calculation, this emission source, if any, will be taken into account by PP during the monitoring periods of the 3rd CP.

Accordingly, the ex-ante project emissions have been calculated as follows for the 3rd CP as checked and confirmed by the CP renewal validation team through the ER Calculation Excel Spreadsheet/10/:

Project Emissions	2025 (09/02/2025-31/12/2025)	2026	2027	2028	2029	2030	2031	2032 (01/01/2032-08/02/2032)
$PE_{EC,t,y}$ (tCO _{2e})	0	0	0	0	0	0	0	0
$PE_{FC,y}$ (tCO _{2e})	0	0	0	0	0	0	0	0
$PE_{flare,y}$ (tCO _{2e})	0	0	0	0	0	0	0	0
PE_y (tCO _{2e})	0	0	0	0	0	0	0	0

As a result, the total annual project emissions have been estimated as 0 for the ex-ante purposes of the 3rd CP.

c) Leakage (LE_y):

The technology used in this project is neither transferred to nor transferred from another activity, so the leakage is considered to be 0 tCO_{2e} / year in line with the applied methodologies, ACM0001 version 19.0 and ACM0002 version 22.0/11/.

d) Emission reductions:

The emission reductions have been calculated through the following equation in line with the applied methodologies/11/:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y : Emissions reductions in year y (tCO_{2e})

BE_y : Baseline emissions in year y (tCO_{2e})

PE_y : Project emissions in the year y (tCO_{2e})

LE_y : Leakage emissions in year y (tCO_{2e})

Accordingly, the ex-ante emission reductions have been calculated as follows for the 3rd CP as checked and confirmed by the CP renewal validation team through the review of the ER Calculation Excel Spreadsheet/10/:

Emission Reductions	2025 (09/02/2025-31/12/2025)	2026	2027	2028	2029	2030	2031	2032 (01/01/2032-08/02/2032)
BE_y (tCO _{2e})	207,599	246,193	260,375	275,028	290,200	305,937	322,286	31,152
PE_y (tCO _{2e})	0	0	0	0	0	0	0	0
LE_y (tCO _{2e})	0	0	0	0	0	0	0	0
ER_y (tCO _{2e})	207,599	246,193	260,375	275,028	290,200	305,937	322,286	31,152

Findings:

CAR-6 and CAR-8 were issued regarding this issue and closed out during the CP renewal validation. Please see CAR-6 and CAR-8 in Annex-1 of the report for further details.

Opinion:

The validation team confirms that:

- a) The selection of the equations of the applied methodology is appropriate.
- b) The assumptions used by the project have been clearly referenced and listed in the CP renewal PDD/07/.
- c) The data included in the CP renewal PDD/07/ has been adopted from authentic sources based on appropriate assumptions.
- d) Appropriate values are reasonably used relating to the project activity.
- e) The baseline methodology has been correctly applied for the calculation of emission reductions.
- f) The calculations are traceable and the values can be replicated using the data provided in the CP renewal PDD/07/.

4.8 Additionality

Discussion:

N/A (Additionality has been checked and confirmed during the initial validation of the project, so no new additionality assessment hasn't been handled during the crediting period renewal validation).

Findings:

No findings were raised.

Opinion:

The project activity is additional as checked and confirmed during the initial validation and in compliance with the GS4GG Principles & Requirements /11/.

4.8.1 Ongoing Financial Need

The signed and sealed letter by PP and third-party chartered accountant /44/ confirming that the finance derived from GS certification has significant contribution to the operating cost of the project (covering approximately 17% and 26% of the operating costs for 2021 and 2022, respectively) and GS issuance records through GS registry link of the project /53/ have been provided.

Findings:

CAR-5 was issued regarding this issue and closed out during the CP renewal validation. Please see CAR-5 in Annex-1 of the report for further details.

Opinion:

The project activity is additional as checked and confirmed during the initial validation and in compliance with the GS4GG Principles & Requirements /11/. Similarly, it can be concluded and confirmed by the CP renewal validation team through the document review including the signed and sealed letter by PP and third-party chartered accountant/44/ confirming that the finance derived from GS certification has significant contribution to the operating cost of the project (covering approximately 17% and 26% of the operating costs for 2021 and 2022, respectively) and GS issuance records through GS registry link of the project /53/ that the finance derived from GS certification contributes to the ongoing financial sustainability of the project.

4.8.2 Double Counting

The double counting issue has also been assessed and the CP renewal validation team has also checked the I-REC registry (<https://evident.app/IREC/device-register/table>)/53/ and this project isn't available within I-REC Registry database as of this verification report date. Similarly, VCS registry/53/ (<https://registry.terra.org/app/search/VCS/All%20Projects>), Bio Carbon registry/53/ (<https://biocarbonregistry.com/en/projects/>), ICR registry/53/ (<https://www.carbonregistry.com/explore/projects>), Social Carbon registry/53/ (https://wilder.earth/social_carbon), UCR registry/53/ (<https://www.ucarbonregistry.io/>), Cercarbono registry/53/ (<https://www.ecoregistry.io/projects-list/cercarbono-co2>) and GCC registry/53/ (https://projects.globalcarboncouncil.com/pages/submitted_projects) were checked and this project isn't available within any of these registries, either. Given that CDM projects are not applicable in Türkiye and the project does not appear on domestic REC scheme, I-REC, VCS, BioCarbon, ICR, Social Carbon, UCR, Cercarbono and GCC registries, it could be confirmed that no RECs and other VER carbon credits are being issued for the project at the time of this verification. Besides that, the signed declaration by PP/35/ confirming about non-existence of double counting and dated as 01/09/2024 has also been provided and the same has also been confirmed by PP that the claimed VERs that are not included within and counted under a regulated domestic climate mitigation target or Nationally Determined Contribution (NDC).

Findings:

No findings were raised.

Opinion:

It could be confirmed by the validation team through the document review and relevant registries' links that no RECs and other VER carbon credits are being issued for the project at the time of this CP renewal validation.

4.9 Application of Monitoring Methodology and Monitoring Plan

Discussion:

The following data/parameters are fixed ex-ante in line with the applied methodologies/11/, associated tools, the PDD of the 3rd CP /07/, registered PDD of 1st CP/01/ and registered PDD of 2nd CP/02/ as in Table 4-1 below:

Table 4.1: Fixed ex-ante data/parameters

Data/Parameter	Unit	Value applied	Source of data	Assessment by the validation team
GWP _{CH₄} (Global Warming Potential of methane valid for the commitment period)	tCO ₂ e / tCH ₄	28	Box 3.2, Table 1 of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change/64/	The value has been checked and confirmed by the validation team through the review of Box 3.2, Table 1 of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change/64/.
Φ _{default} (Model correction factor to account for model uncertainties)	-	0.75 (For baseline emissions)	Default value as per applicable guidance of the Tool 04: CDM methodological tool "Emissions	The value has been checked and confirmed by the validation team through the review of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ and the in line with the web site of

Data/Parameter	Unit	Value applied	Source of data	Assessment by the validation team
			from solid waste disposal sites" version 08.1/24/	General Directorate of Meteorology in Türkiye (https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=A&m=SA MSUN)/63/ corresponding to the Application A and humid and wet conditions with the mean annual temperature around 14.6°C and the mean annual precipitation around 723.2 mm per year.
OX (Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste))	-	0.1	Default value as per Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/	The value has been checked and confirmed by the validation team through the review of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/.
F (Fraction of methane in the SWDS gas (volume fraction))	-	0.5	Default value as per Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories /65/.	The value has been checked and confirmed by the validation team through the review of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories /65/.
DOC _{f,default} (Default value for the fraction of degradable organic carbon (DOC) in MSW that can decompose in the SWDS)	Weight fraction	0.5	Default value as per Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ and 2019 Refinement to the 2006 IPCC Guidelines for	The value has been checked and confirmed by the validation team through the review of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ corresponding to the Application A and 2019 Refinement to the 2006 IPCC Guidelines for

Data/Parameter	Unit	Value applied	Source of data	Assessment by the validation team
			National Greenhouse Gas Inventories /65/	National Greenhouse Gas Inventories /65/.
MCF _{default}	-	1	Default value as per Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories /65/.	The value has been checked and confirmed by the validation team through the review of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ corresponding to the anaerobic managed solid waste disposal sites, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories /65/ and through the on-site visit observations the project site having control of fire, cover material and levelling of waste.
DOC _j (Fraction of degradable organic carbon in the waste type j (weight fraction))	-	Wood and wood products: 43% Pulp, paper and cardboard (other than sludge): 40% Food, food waste, beverages and tobacco (other than sludge): 15% Textiles: 24% Garden, yard and park waste: 20% Glass, plastic, metal, other inert waste: 0%	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories /65/ (adapted from Volume 5, Tables 2.4 and 2.5 and it is same with the 2006 IPCC Guidelines)	The value has been checked and confirmed by the validation team through the review of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ corresponding to the Application A and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories /65/.
k _j	1/yr	Temperate (MAT ≤ 20°C) and wet MAP/PET > 1)	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas	The value has been checked and confirmed by the validation team through the review of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites"

Data/Parameter	Unit	Value applied	Source of data	Assessment by the validation team
		Wood, wood products and straw: 0.03 Pulp, paper and cardboard (other than sludge: 0.06 Food, food waste, sewage sludge, beverages and tobacco: 0.185 Textiles:0.06, Other (non-food) organic putrescible garden and park waste: 0.10	Inventories /65/ (adapted from Volume 5, Tables 2.4 and 2.5 and it is same with the 2006 IPCC Guidelines)	version 08.1 ^{/04/} corresponding to the mean annual temperature around 13.1°C (Boreal and temperate (MAT≤20°C) web site of General Directorate of Meteorology in Türkiye web site (https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=A&m=SA MSUN)/63/ wet conditions being MAP/PET>1 (https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=A&m=SA MSUN and https://www.mgm.gov.tr/arastirma/buharlasma.aspx?s=2023)/64/ and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories /65/.
ρ_{CH_4} (Density of methane at normal conditions)	t_{CH_4} / m^3CH_4	0.00067	Tool 08: Tool to determine the mass flow of a greenhouse gas in a gaseous stream version 3.0/26/	The value has been checked and confirmed by the CP renewal validation team through the review of Tool 08: Tool to determine the mass flow of a greenhouse gas in a gaseous stream version 3.0/26/.
η_{PJ} (Efficiency of the LFG capture system that has been installed in the project activity)	Dimensionless	70%	Summary Waste Flow Analysis and Technical Survey of Report/34/	The value has been checked and confirmed by the CP renewal validation team through the review of PDD of 3 rd CP/07/, registered PDD of 2 nd CP/02/ and Summary Waste Flow Analysis and Technical Survey of Report/34/.
R_u (Universal ideal gases constant)	$Pa.m^3 / kmol.K$	8,314	Tool 08: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 03.0/26/	The value has been checked and confirmed by the validation team through the review of Tool 08: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 03.0/26/.
MM_{CH_4} (Molecular mass of CH_4)	kg/kmol	16.04	Tool 08: "Tool to determine the mass flow of a	The value has been checked and confirmed by the validation team

Data/Parameter	Unit	Value applied	Source of data	Assessment by the validation team
			greenhouse gas in a gaseous stream" version 03.0/26/	through the review of Tool 08: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 03.0/26/.
P _n (Total pressure at normal conditions)	Pa	101,325	Tool 08: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 03.0/26/	The value has been checked and confirmed by the validation team through the review of Tool 08: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 03.0/26/.
T _n (Temperature at normal conditions)	K	273.15	Tool 08: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 03.0/26/	The value has been checked and confirmed by the validation team through the review of Tool 08: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 03.0/26/.
SPEC _{flare} (Manufacturer's flare operating specifications for temperature, flow rate and maintenance schedule)	Temperature - °C Flow rate - Nm ³ /h Maintenance schedule - number of days	900-1200 °C 500 Nm ³ /h 180 days	Flare manufacturer (Conveco)/48/	The value has been checked and confirmed by validation team through review of the technical note by Conveco (the flare manufacturer)/48/ and through the on-site observations and handled interviews during the on-site visit.
EF _{grid,BM,y} (Build margin CO ₂ emission factor in year y)	tCO ₂ /MWh	0.3721	Turkiye Ministry of Energy and Natural Resources Emission Factor data for 2022	The value has been checked and confirmed by validation team by the Türkiye Ministry of Energy and Natural Resources web site link (https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klm/%C4%B0klmDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf) /27/.
EF _{grid,OM,y} (Operating margin CO ₂ emission factor in year y)	tCO ₂ /MWh	0.7108	Turkiye Ministry of Energy and Natural Resources Emission Factor data for 2022	The value has been checked and confirmed by validation team by the Türkiye Ministry of Energy and Natural Resources web site link (https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klm/%C4%B0klmDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf) /27/.

Data/Parameter	Unit	Value applied	Source of data	Assessment by the validation team
				SEmisyonFktr/Belgeler/Sebeke EF Bilgi Formu 2022.pdf /27/.
EF _{grid,CM,y} (Combined margin CO ₂ emission factor in year y)	tCO ₂ /MWh	0.5415	Turkiye Ministry of Energy and Natural Resources Emission Factor data for 2022	The value has been checked and confirmed by validation team by the Türkiye Ministry of Energy and Natural Resources web site link (https://enerji.gov.tr//Medi a/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke EF Bilgi Formu 2022.pdf) /27/.

The monitoring plan for the project activity is provided in Section B.7 of the CP renewal PDD/07/. The following data/parameters will be monitored during the 3rd CP in line with “ACM0001: Flaring or use of landfill gas – Version 19.0” and “ACM0002: Grid-connected electricity generation from renewable sources” version 22.0/11/ and the relevant CDM and Gold Standard requirements as in Table 4-2 below:

Table 4-2: SDG related monitored data/parameters

Parameter and description	Relevant SDG Indicator	Unit	Monitoring
Net electricity exported to the grid by the project (EG _{PJ,y} or EG _{facility,y})	SDG7 (Target:7.2 Indicator:7.2.1)	MWh	This value will be monitored continuously and recorded monthly by the electricity meters that belong to TEIAS, Turkish Electricity Transmission company. The main source of generation data is EPIAS (the financial settlement centre of TEIAS) records. The quantity of net electricity delivered to the grid is cross checked with the meter reading protocols records of TEIAS meters or YEDAS (the authorized distribution company) protocol records (notices).
Number of employment generation	SDG 8 (Target 8.5 Indicator 8.5.2)	Number	Number of employment is monitored annually through the social security records/46/. The project is expected to provide between 20 and 25 employments during the third crediting period. The parameter will be monitored once for each monitoring period through the number of full-time employees with the social security records/46/ during the verification process.
Health and safety trainings	SDG 8 (Target 8.8 Indicator 8.8.2)	Number	It is expected to be provided at least 1 training for each employee annually during the third crediting period. The parameter will be monitored once for each monitoring period through the training attendance records or training certificates/47/ during the verification process.

Parameter and description	Relevant SDG Indicator	Unit	Monitoring
Air quality (GHG emission reduction through the project)	SDG 13 (Target: 13.3 Indicator: 13.3.1)	tCO ₂ e	Emission reductions will be calculated by considering the EPIAS records for the net electricity generated and the grid emission factor, 0.5415 tCO ₂ /MWh, published by Turkish Ministry of Energy and Natural Resources/27/ and fixed ex-ante during the 3 rd CP. The annual emission reduction estimated by the project is 276,967 tCO ₂ e (as GS VERs) during the 3 rd CP.

The assessment of other monitored data/parameters have been included as in Table 4-3 below:

Table 4-3: Other monitored data/parameters

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
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)	-	0	Relevant municipal entities including Samsun Metropolitan Municipality	N/A	There hasn't been any legal mandate and/or restrictions preventing the implementation of such alternatives in the host country and all are in compliance with the relevant legal regulations as confirmed by the validation team through the review of relevant legal regulations and requirements/52 / and through its local and sectoral knowledge.
W _x (Amount of municipal solid waste in the year x)	t	572,719 t/year (Average value for the 3 rd CP)	Based on historical information as in Application A of Tool 04: CDM methodological tool "Emissions from solid waste disposal	N/A	The expected average municipal solid waste amount is 572,719 t/year as determined ex-ante as checked and confirmed through the review of Summary Waste

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
			sites" version 08.1/24/		Flow Analysis and Technical Survey of Report/34/ and Section 6.3.2.1 of Tool 04: CDM methodological tool "Emissions from solid waste disposal sites" version 08.1/24/ and handled interviews during the on-site visit considering that the Application A is employed.
EG _{PJ,grid,y} (Net amount of electricity supplied to the grid in year y)	MWh	54,600	Environmental and Technical Summary Report/37/	The electricity meters will be calibrated every 10 years as checked and confirmed through the relevant legal regulation /52/ (https://www.resmigazete.gov.tr/eskiler/2016/06/20160629-22.htm) and (https://www.resmigazete.gov.tr/eskiler/2023/11/20231123-2-1.pdf). The main meter's initial calibration date is 07/09/2016/30/ and that of back-up meter is 02/12/2021/30/ and there haven't been any other meter tests after 2016 and 2021 due to ten-year calibration period of the meters.	The generation value determined ex-ante has been checked and confirmed through the review of the Environmental and Technical Summary Report/37/ and the generated electricity will be measured continuously and aggregated at least monthly during the monitoring periods of the 3 rd CP as checked and confirmed through the review of ACM0002 version 22.0/11/ and "Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 03.0/23/ and registered PDD of 2 nd CP/02/.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
					The main data source will be EPIAS records whereas TEAIS meter reading protocols will be used as the cross-check source as confirmed through the sectoral and local knowledge of the validation team. This parameter will also be monitored as part of the SDG-7 monitoring.
W_{CH_4} (Methane fraction in the landfill gas)	%	-	Gas analyser (at the main booster pipe)	The gas analyser will be calibrated in line with the recommendations by the manufacturer and the same has been deemed as acceptable through the review of registered PDD of 2nd CP/01/ and technical and sectoral knowledge of the validation team. The last calibration date is 19/07/2019 through the review of the last calibration certificate of the gas analyser system/49/ and the details of the currently available gas analyser are as follows as checked and confirmed through the on-site visit:	CH ₄ fraction will be measured continuously during the monitoring periods of the 3 rd CP as checked and confirmed through the review of registered PDD of 2 nd CP/01/, PDD of 3 rd CP/02/ and handled interviews during the on-site visit.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				Brand/model: MRU SWG100 Bio compact Serial number: 80695	
T_t (Temperature of the gaseous stream in time interval t)	K	-	Temperature measurement device of MRU gas analyser system (at the main booster pipe)	The temperature measurement device of MRU gas analyser system (integrated circuit member of MRU gas analyser system) will be calibrated in line with the recommendations by the manufacturer and the same has been deemed as acceptable through the review of "Tool 08: Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 3.0/26/ and through the technical and sectoral knowledge of the validation team. The last calibration date of temperature measurement device of MRU gas analyser is 19/07/2019/49/ and there hasn't been any specific calibration period by the manufacturer as checked and confirmed through the review of the registered PDD of 2nd CP/01/ and handled	The temperature of the gas will be measured continuously during the monitoring periods of the 3 rd CP as checked and confirmed through the "Tool 08: Tool to determine the mass flow of a greenhouse gas in a gaseous stream" version 3.0/26/.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				interviews during the on-site visit. The details of the currently available temperature measurement device of MRU gas analyser are as follows as checked and confirmed through the review of the last calibration certificate of the temperature measurement device of MRU gas analyser system (integrated circuit member of MRU gas analyser system/49/, signed confirmation declaration by the supplier firm about the non-necessity of the calibration of the sensors of the temperature measurement device of MRU gas analyser/69/ and through the on-site visit: Brand/model: MRU SWG100 Type: TKT-35 Thermistor type Serial number: 80695	
$F_{CH_4, RG, m}$ (Mass flow of methane in the residual gas stream in the minute m)	kg	-	Measurement through the flow meter-2 (Static orifice + differential	The flow meter will be calibrated in case of any drift/deviation in line with the recommendatio	The amount of landfill gas flared will be measured continuously during the monitoring

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
			pressure type flow meter)	ns by the manufacturer and the same has been deemed as acceptable through the review of registered PDD of 2nd CP/02/ and technical and sectoral knowledge of the validation team. The last calibration date of the flow meter is 24/04/2022/50/. The details of the currently available flowmeter-2 are as follows as checked and confirmed through the review of the last calibration certificate of the pressure sensors of the flowmeter/50/ and through the on-site visit: Manufacturer: Technova HT Model: (Static orifice + Differential pressure type flow meter) Serial Number: AAL3829F	periods of the 3 rd CP as checked and confirmed through the review of the registered PDD of 2 nd CP/02/, PDD of 3 rd CP/07/ and on-site visit observations.
$\eta_{\text{flare},m}$ (Flare efficiency in minute m)	%	The flare efficiency for the minute m ($\eta_{\text{flare},m}$) is 90% when the following two conditions are met to demonstrate that the flare is operating:	Tool 06: Project emissions from flaring version 4.0/25/	N/A	The flare efficiency will be determined in line with the Option A of enclosed flares as checked and confirmed through the review of the registered PDD of 2 nd CP/01/

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
		- The temperature of the flare ($T_{EG,m}$) and the flow rate of the residual gas to the flare ($F_{RG,m}$) is within the manufacturer's operating specification for the flare ($SPEC_{flare}$) in the minute m; and - The flame is detected in the minute m ($Flamem$). Otherwise $\eta_{flare,m}$ is 0%			and Tool 06: Project emissions from flaring version 4.0/25/.
$PE_{flare,y}$ (Project emissions from flaring of the residual gas in year y)	tCO ₂ e	-	Calculated by PP	N/A	The 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 ($F_{CH4,RG,m}$) and the flare efficiency ($\eta_{flare,m}$) as checked and confirmed through the review of registered PDD of 2 nd CP/02/, PDD of 3 rd CP/07/ and "Tool 06: Project emissions from flaring" version 4.0/25/.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
Flame _m (Flame detection of flare in the minute m)	Flame on or Flame off	-	Provided by PP	There hasn't been any defined calibration frequency as the equipment has a self-checking function and the details of the currently available UV flame detector are as follows as checked and confirmed through the on-site visit: Brand/model: Eris-3 Serial Number: 2111-0306 Manufacturer: Eris	The frequency of the monitoring is once per minute and the detection of flame recorded as a minute that the flame was on, otherwise recorded as a minute that the flame was off through the UV flame detector as checked and confirmed through the "Tool 06: Project emissions from flaring" version 4.0/25/.
Operational hours of the power plant	h	6,500	Environmental and Technical Summary Report/37/	The operational hours of the power plant will be determined through the programmable logic controller or programmable controller (PLC) data of the gas engines' automation system during the monitoring periods of the 3 rd CP and there hasn't been any defined calibration frequency in line with the recommendations by the manufacturer of the gas engines' control system and since it is a closed automation system, the same has been deemed as acceptable by	The operational hours of the power plant will be calculated based on the engines' supplied amount of power (kW) and the same has been recorded continuously by the automation system review of registered PDD of 2 nd CP/02/, PDD of 3 rd CP/07/ and on-site visit.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				the CP renewal validation team. The details of the gas engines' control system are as follows as checked and confirmed through the screenshots of the gas engines control system/66/, on-site visit and handled interviews during the on-site visit: Brand/model: MWM TEM System Log Easygen-3200-5 Serial numbers: GENSET-1 2209051 GENSET-2 2209398 GENSET-3 2210872 GENSET-4 2211580 GENSET-5 2211579 GENSET-6 2212959 GENSET-7 2213990	
T _{EG,m} (Temperature in the exhaust gas of the enclosed flare in the minute m)	°C	-	Provided by PP	The thermocouple will be replaced and calibrated annually in line with the recommendations by the manufacturer and due to the high temperature working conditions and the same has been deemed as	The frequency of the monitoring is continuously (once per minute) and will be measured through the thermocouple as checked and confirmed through the review of the registered PDD of 2 nd CP/01/, PPD of 3 rd CP/07/ and Tool

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				acceptable and valid through the review of “Tool 06: Project emissions from flaring” version 4.0/25/ and technical and sectoral knowledge of the validation team. The last control and calibration date of the thermocouple is 15/04/2024/67/. The details of the currently available thermocouple are as follows as checked and confirmed through the review of the last replacement ad calibration certificate of the thermocouple/6 7/ and through the on-site visit: Manufacturer: Ordel Model: OT-03-K12L15-15HTT Serial Number: 2304-13785	06: Project emissions from flaring version 4.0/25/.
LFG_{electricity,y} (Total amount of landfill gas and biogas combusted in the generator unit in year y)	Nm ³	-	Measurement through the flow meters-1, 2 and 3	The flow meters will be calibrated in case of any drift/deviation in line with the recommendations by the manufacturer and the same has been deemed as acceptable through the review of registered PDD of 2nd CP/02/ and technical and sectoral	The amount of landfill gas flared will be measured continuously during the monitoring periods of the 3rd CP as checked and confirmed through the review of the registered PDD of 2nd CP/02/, PDD of 3rd CP/07/ and on-site visit observations.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				knowledge of the validation team. The details of the currently available flowmeters have been included under the $F_{CH4,RG,m}$, $LFG_{total,y}$ and $LFG_{biogasl,y}$ parameters.	
$LFG_{biogas,y}$ (Total amount of biogas combusted in the generator unit in year y)	Nm^3	-	Measurement through the flow meter-3	The flow meter will be calibrated in case of any drift/deviation in line with the recommendations by the manufacturer and the same has been deemed as acceptable through the review of registered PDD of 2nd CP/02/ and technical and sectoral knowledge of the validation team. The biogas part is not within the context of this project as checked through the of the Sections A.1 and A.3 of the PDD of 3rd CP/07/, on-site visit observations and handled interviews during the on-site visit. The last calibration date of the flow meter is the photographic evidence of flow meter-3 is 02/11/2018/68/. The details of the currently	The amount of biogas flared will be measured continuously but the same is not within the context of this project as checked through the of the Sections A.1 and A.3 of the PDD of 3rd CP/07/, on-site visit observations and handled interviews during the on-site visit.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				available flowmeter-3 are as follows as checked and confirmed through the review of the photographic evidence of flow meter-3 and through the on-site visit: Manufacturer: CS Instruments Model: VA 550 CS Ex (Atex thermal mass flow meter) Serial Number: 44182175	
LFG _{flare,y} (Total amount of landfill gas flared in year y)	Nm ³	-	Measurement through the flow meter-2 (Static orifice + differential pressure type flow meter)	The flow meter will be calibrated in case of any drift/deviation in line with the recommendations by the manufacturer and the same has been deemed as acceptable through the review of registered PDD of 2nd CP/02/ and technical and sectoral knowledge of the validation team. The last calibration date of the flow meter is 24/04/2022/50/. The details of the currently available flowmeter-2 are as follows as checked and confirmed through the review of the last calibration	The amount of landfill gas flared will be measured continuously during the monitoring periods of the 3 rd CP as checked and confirmed through the review of the registered PDD of 2 nd CP/02/, PDD of 3 rd CP/07/ and on-site visit observations.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				certificate of the pressure sensors of the flowmeter/50/ and through the on-site visit: Manufacturer: Technova HT Model: (Static orifice + Differential pressure type flow meter Serial Number: AAL3829F	
LFG _{total,y} (Total amount of landfill gas and biogas captured in year y)	Nm ³	-	Measurement through the flow meter-1 (Static orifice + differential pressure type flow meter)	The flow meter will be calibrated in case of any drift/deviation in line with the recommendations by the manufacturer and the same has been deemed as acceptable through the review of registered PDD of 2nd CP/02/ and technical and sectoral knowledge of the validation team. The last calibration date of the flow meter is 24/04/2022/50/. The details of the currently available flowmeter-1 are as follows as checked and confirmed through the review of the last calibration certificate of the pressure sensors of the flowmeter/50/	The amount of landfill gas flared will be measured continuously during the monitoring periods of the 3rd CP as checked and confirmed through the review of the registered PDD of 2nd CP/02/, PDD of 3rd CP/07/ and on-site visit observations.

Data/Parameter	Unit	Value applied	Source of data	Calibration requirements	Assessment by the validation team
				and through the on-site visit: Manufacturer: Technova HT Model: (Static orifice + Differential pressure type flow meter Serial Number: AAL3824F	

It can be concluded that the monitoring plan has provisions for the real measurement of the parameter to reach to the achieved emission reductions.

Findings:

CAR-9 was issued regarding this issue and closed out during the CP renewal validation. Please see CAR-9 in Annex-1 of the report for further details.

Opinion:

By document review and interviews handled during the on- site visit, it is confirmed by the CP renewal validation team that the monitoring plan is in compliance with the requirements stated in the applied monitoring methodologies/11/ can be properly implemented and all monitoring arrangements are feasible within the project design, and the means of implementation of the monitoring plan, including data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions to be achieved by the project activity can be properly reported and verified and all relevant and applicable fixed ex-ante and monitored data/parameters for the project activity have been included as in the registered PDD of 1st CP/01/ and the registered PDD of 2nd CP/02/. Besides that, SDG Impact Tool Excel Spreadsheet/15/ is assessed and confirmed by the CP renewal validation team that it has been prepared in line with the requirements of SDG Impact Tool Manual/15/ and Excel-based standardized SDG Impact Tool Template/15/.

Sampling Plan:

N/A.

4.10 Environmental Impacts

Discussion:

The EIA Not Necessary Decision Document /36/ confirming about no significant adverse impact of the project have been provided.

The hazardous waste declaration forms/33/ provided to Ministry of Environment and Urbanization for 2022 and 2023 years have been provided. The hazardous waste storage area including waste oil and the domestic waste containers have also been seen during the on-site visit. Besides that, there hasn't been any complaint by the interviewed local stakeholders regarding the waste management activities during the on-site visit.

The signed letter by Samsun Metropolitan Municipality confirming about the proper discharge and management of leachate/31/ has also been provided. Besides that, there hasn't been any complaint by the interviewed local stakeholders regarding this issue during the on-site visit

Findings:

No findings were raised.

Opinion:

Based on the mentioned document review and interviews with the local stakeholders, it could be confirmed by the validation team that the project activity complies with the local environmental regulations including Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy, No: 5346, ratified on 10/05/2005 by Grand National Assembly of Türkiye, enacted on 18/05/2005 /52/, Electricity Market Law, No: 6446, ratified on 14/03/2013 by Grand National Assembly of Türkiye, enacted on 30/03/2013 /52/, Environment Law, No: 2872, ratified on 09/08/1983 by Grand National Assembly of Türkiye, enacted on 11/08/1983 /52/, Forest Law, No: 6831, ratified on 31/08/1956 by Grand National Assembly of Türkiye, enacted on 08/09/1956 /52/ and EIA Regulation, ratified by President of Türkiye, enacted on 25/11/2014 /52/ and any negative environmental impacts haven't been expected during the third crediting period. There hasn't been any significant environmental impact due to the project as already confirmed in line with the initial validation report/03/, CP renewal validation report (2nd CP)/03/, and through the review of the EIA Not Necessary Decision Document/36/, hazardous waste declaration forms/33/, signed letter by Samsun Metropolitan Municipality confirming about the proper discharge and management of leachate/31/, on-site visit observations and handled interviews during the on-site visit.

4.11 Local Stakeholder Comments**Discussion:**

The local stakeholders had been interviewed about the following issues during the on-site visit:

- Odour due to the project activity
- Sufficiency of local employment
- Waste management practices implemented by PP
- Impact of the project on flora and fauna
- Impact of the project on soil condition

Although there hasn't been any change with the capacity of the project activity, the complimentary local stakeholder meeting has been handled on 22/05/2024 and the Local Stakeholders' Meeting Minutes signed by Aşağı Avdan Village Head (Mukhtar)/42/ have also been provided by PP and there hasn't been any complaint by the local stakeholders as checked and confirmed through the signed declaration by Aşağı Avdan Village Mukhtar (Village Head) and handled interviews during the on-site visit. Besides that, the official sample emails /43/ about the complimentary stakeholder feedback round for the 3rd CP and sent to different NGOs and Ministry of Environment and Urbanization representatives have also been provided and there haven't been any feedback and/or comment by them in line with the information by PP.

It was also concluded that the grievance mechanism is in place and this was also confirmed by the interviewed local stakeholders during the on-site visit. The document showing the contact details of the relevant person within PP with the signature of Aşağı Avdan Mukhtar (Village Head and dated as 22/05/2024/41/ were also provided to VVB and it could be confirmed that there hasn't been any complaint by the interviewed local stakeholders in line with the handled interviews.

The grievance logbook/40/ is available in Aşağı Avdan Mukhtar (Village Head) office as confirmed through the interviews with the local stakeholders including Mukhtar during the on-site visit. It could also be confirmed by the CP renewal validation team that it is easier to access the Mukhtar (Village Head) office since Mukhtar is the representative of village, so it is deemed as acceptable and logical to place the grievance logbook/40/ in there.

Findings:

CAR-7 was issued regarding this issue and closed out during the CP renewal validation. Please see CAR-7 in Annex-1 of the report for further details.

Opinion:

Based on the mentioned document review and interviews with the local stakeholders, it could be confirmed by the CP renewal validation team that the grievance mechanism in place and there hadn't been any complaint by the interviewed local stakeholders during the on-site visit.

4.12 Forward Action Requests (FARs) from Previous Verification

There are two FARs from the last (fourth) verification process including its GS performance review stage:

"FAR-1: On-site audit shall be resumed when Covid-19 situation eases. PD shall refer to the latest version of the COVID-19 interim measures published by GS4GG.

The on-site visit has been handled on 05/06/2024. Therefore, this FAR has been closed out.

FAR-2: Considering the difference of realized from estimated, 73% more ER monitored during 1st MP. It was reasoned with account of better collection of gas and utilization in the engines rather than flaring. Besides that, the gas projection from the first order decay model as per the methodology deviating from the actuals is indicated. If similar difference is observed during 2nd MP, project shall apply for design change request as per Design Change Requirements para 3.1.5 (a-i)".

This will be checked and assessed during the next verification. Therefore, another FAR has been issued to be checked during the next verification.

Findings:

CL-1 was issued regarding this issue and closed out and FAR-1 was issued accordingly during the CP renewal validation. Please see CL-1 and FAR-1 in Annex-1 of the report for further details.

Opinion:

The FAR from the last (fourth) verification has been checked by the CP renewal validation team and the same has been assessed and FAR-1 has been issued by the CP renewal validation team as in Annex-1 of the report.

5. Safeguarding Principles Assessment

PP has completed the safeguarding principles assessment analysis and presented assessment in the CP renewal PD/07/. The assessment has been performed in accordance to requirements prescribed in the GS4GG Principles & Requirements, Version 2.0/12/ & Safeguarding Principles & Requirements version 2.1/12/.

The hazardous wastes will not be processed within the context of the project activity. The hazardous wastes arisen from the project activity's processes and associated hazardous waste declaration forms/33/ provided to Ministry of Environment and Urbanization for 2022 and 2023 years have been provided. The hazardous waste storage area including waste oil and the domestic waste containers have also been seen during the on-site visit. Besides that, there hasn't been any complaint by the interviewed local stakeholders regarding the waste management activities during the on-site visit. The hazardous processing under the Principle 9.4 – Release of Pollutants will also be monitored during the 3rd CP once for each monitoring period and through the on-site visit observations and interviews with the relevant stakeholders.

The reduction of odour will be monitored during the 3rd CP and there hasn't been any complaint by the interviewed local stakeholders regarding the odor during the on-site visit and any observed negative significant impact through the on-site visit observations. The signed letter by Samsun Metropolitan Municipality confirming about the proper discharge and management of leachate/31/ has also been provided. The same under the Principle 9.4 – Release of Pollutants will also be monitored during the 3rd CP once for each monitoring period and through the on-site visit observations and interviews with the relevant stakeholders.

The waste terracing will be monitored during the 3rd CP and there hasn't been any complaint by the interviewed local stakeholders regarding the waste terracing during the on-site visit and any observed negative significant impact through the on-site visit observations. The same under the Principle 9.4 – Release of Pollutants will also be monitored during the 3rd CP once for each monitoring period and through the on-site visit observations and visual inspection.

The leachate as a result of the project activity under the Principle 9.4 – Release of Pollutants will also be monitored during the 3rd CP. The same will be monitored once for each monitoring period and through the signed letter by Samsun Metropolitan Municipality and/or interviews with the relevant stakeholders.

Findings:

No findings were raised.

Opinion:

It could be confirmed by the CP renewal validation team through the document review and interviews with the local stakeholders that the safeguarding principles have been appropriately identified and discussed and the project activity meets the requirements prescribed in the GS4GG Principles & Requirements, Version 2.0/12/ & Safeguarding Principles & Requirements version 2.1/12/.

The above indicated parameters will be monitored during the 3rd CP of the project.

6. References

No.	Author	Title	References to the document	Provider
1.	PP	Registered PDD of 1 st CP	Version 04, dated 13/04/2012	PP
2.	PP	Registered PDD of 2 nd CP	Version 09, dated 21/01/2020	PP
3.	Tüv Rheiland Re Carbon Ltd.	Initial Validation Report CP Renewal Validation Report (2 nd CP)	Version 06, dated 23/07/2012 Version 3.1, dated 22/01/2020	PP
4.	PP & KBS	CP Renewal Validation Service Agreement	Dated 21/05/2024	PP
5.	PP	Revised Initial CP Renewal PDD	Version 01, dated 28/05/2024	PP
6.	PP	Revised CP Renewal PDD Revised CP Renewal PDD	Version 02, dated 21/09/2024 Version 03, dated 11/11/2024	PP
7.	PP	Final CP Renewal PDD	Version 04, dated 22/01/2025	PP
8.	PP	ER Calculation Excel Spreadsheet	Version 01, dated 28/05/2024	PP
9.	PP	ER Calculation Excel Spreadsheet	Version 02, dated 21/09/2024	PP
10.	PP	ER Calculation Excel Spreadsheet	Version 03, dated 11/11/2024	PP
11.	UNFCCC	ACM0002: Grid-connected electricity generation from renewable sources ACM0001: Flaring or use of landfill gas	Version 22.0 Version 19.0	UNFCCC CDM Website
12.	Gold Standard	GS4GG Principles & Requirements (https://globalgoals.goldstandard.org/101-principles-requirements/) Safeguarding Principles & Requirements	Version 2.0, dated 12/11/2024	Gold Standard Website

No.	Author	Title	References to the document	Provider
		(https://globalgoals.goldstandard.org/101-principles-requirements/)	Version 2.1, dated 29/06/2023	
13.	Gold Standard	Renewable Energy Activity Requirements (https://globalgoals.goldstandard.org/200-activity-requirements/)	Version 1.4, dated 16/08/2021	Gold Standard Website
14.	Gold Standard	Stakeholder Consultation and Engagement Requirements (https://globalgoals.goldstandard.org/100-principles-and-requirements/)	Version 2.1, dated 14/06/2022	Gold Standard Website
15.	Gold Standard	SDG Impact Tool Manual and Excel Based Template (https://globalgoals.goldstandard.org/sdg-impact-tools/) SDG Impact Tool Excel Spreadsheet	Version 1.1, dated 14/03/2022 Version 02, dated 11/11/2024	Gold Standard Website PP
16.	Gold Standard	Gold Standard Validation and Verification Standard (https://globalgoals.goldstandard.org/113-par-validation-and-verification-standard/)	Version 02, dated 12/11/2024	Gold Standard Website
17.	UNFCCC	CDM Validation and Verification Standard for Project Activities	Version 3.0	UNFCCC CDM website
18.	UNFCCC	CDM Project Standard for Project Activities for Project Activities	Version 3.0	UNFCCC CDM website
19.	UNFCCC	Tool 07: Tool to calculate the emission factor for an electricity system	Version 7.0	UNFCCC CDM website
20.	UNFCCC	Tool 32: Positive lists of technologies	Version 4.0	UNFCCC CDM website
21.	UNFCCC	Tool 03: Tool to calculate project or leakage CO ₂	Version 3.0	UNFCCC CDM website

No.	Author	Title	References to the document	Provider
		emissions from fossil fuel combustion		
22.	UNFCCC	Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period	Version 3.0.1	UNFCCC CDM website
23.	UNFCCC	Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation	Version 3.0	UNFCCC CDM website
24.	UNFCCC	Tool 04: Emissions from solid waste disposal sites	Version 08.1	UNFCCC CDM website
25.	UNFCCC	Tool 06: Project emissions from flaring	Version 04.0	UNFCCC CDM website
26.	UNFCCC	Tool 08: Tool to determine the mass flow of a greenhouse gas in a gaseous stream	Version 03.0	UNFCCC CDM website
27.	Turkish Ministry of Energy and Natural Resources	Turkish National Electricity Network Emission Factor Information (https://enerji.gov.tr//Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Sebeke_EF_Bilgi_Formu_2022.pdf)	26/11/2024	Turkish Ministry of Energy and Natural Resources website
28.	Gold Standard	Final Issuance (Performance) Review Document (4 th Verification)	-	Gold Standard Registry
29.	Re Carbon Ltd.	Fourth Verification Final Report (2 nd CP)	Version 02.1 dated 13/03/2022	Gold Standard Registry
30.	TEIAS	Meters Test Reports	07/09/2016 02/12/2021	PP
31.	Samsun Metropolitan Municipality	Signed Letter (Confirming About the Proper Discharge and Management of Leachate)	21/10/2024	PP

No.	Author	Title	References to the document	Provider
32.	Turkish Energy Market Regulatory Authority	Electricity Generation Licence (Last Amendment)	22/03/2018	PP
33.	PP	Hazardous Waste Declaration Forms Provided to Ministry of Environment and Urbanization	2022 2023	PP
34.	Greentask Danışmanlık A.Ş.	Summary Waste Flow Analysis and Technical Survey of Report	-	PP
35.	PP	Signed Declaration by PP (Confirming About Non-Existence of Double Counting)	01/09/2024	PP
36.	Ministry of Environment and Urbanization	EIA Not Necessary Decision Document	28/08/2015	PP
37.	Greentask Danışmanlık A.Ş.	Environmental and Technical Summary Report	-	PP
38.	TEIAS	Provisional Acceptance Protocols	09/03/2012 27/09/2013 27/09/2014 22/05/2018	PP
39.	PP	Written Announcements Placed in the Common Areas of Aşağı Avdan Village for Complimentary Stakeholder Meeting	-	PP
40.	PP	Grievance Logbook Photos	-	PP
41.	PP	Signed Letter by Aşağı Avdan Village Head (Mukhtar) (About the Contact Details of PP Relevant Staff in Case of Any Complaint and Availability of Logbook)	22/05/2024	PP
42.	PP	Signed Local Stakeholders' Meeting Minutes by Aşağı	22/05/2024	PP

No.	Author	Title	References to the document	Provider
		Avdan Village Head (Mukhtar)		
43.	PP	Sample Emails Sent to Different NGOs and Ministry of Environment and Urbanization Representatives (About the Complimentary Stakeholder Feedback Round for the 3 rd CP)	22/05/2024	PP
44.	PP and Third-Party Chartered Accountant	Signed and Sealed Letter by PP and Third-Party Chartered Accountant (Confirming That the Finance Derived from GS Certification Has Significant Contribution to the Operating Cost of the Project)	30/07/2024	PP
45.	Gold Standard	GS Registry Link of the Project (https://registry.goldstandard.org/projects/details/1670)	-	Gold Standard Registry
46.	PP	Social Security Records for PP Site Employees	-	PP
47.	PP	Sample Training Records	25/10/2022 08/12/2022 08/03/2023 02/06/2023 24/08/2023	PP
48.	Conveco	Flare Technical Note	-	PP
49.	MRU	Calibration Certificate of Gas Analyser	19/07/2019	PP
50.	Conveco	Calibration Certificate of Flow Meter-1 & Flow Meter-2	24/04/2022	PP
51.	MWM & İlteknö	Gas Engines Technical Datasheets	-	PP
52.	Grand National Assembly of Türkiye	Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy, No:	-	-

No.	Author	Title	References to the document	Provider
		5346, ratified on 10/05/2005 by Grand National Assembly of Türkiye, enacted on 18/05/2005 - Electricity Market Law, No: 6446, ratified on 14/03/2013 by Grand National Assembly of Türkiye, enacted on 30/03/2013 - Environment Law, No: 2872, ratified on 09/08/1983 by Grand National Assembly of Türkiye, enacted on 11/08/1983 - Forest Law, No: 6831, ratified on 31/08/1956 by Grand National Assembly of Türkiye, enacted on 08/09/1956 - EIA Regulation, ratified by President of Türkiye, enacted on 25/11/2014 - Regulation on Measurement and Measurement Devices, enacted on 24/07/1994 (https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5) - Regulation on the Management of Waste Oil (https://www.resmigazete.gov.tr/eskiler/2019/12/20191221-1.htm) - Regulation on Control of Hazardous Wastes (https://www.resmigazete.gov.tr/eskiler/2005/03/20050314-1.htm) - Regulation on Waste Management (https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5)		

No.	Author	Title	References to the document	Provider
		tNo=20644&MevzuatTur=7&MevzuatTertip=5) Regulation on Control of Industrial Air Pollution (https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=13184&MevzuatTur=7&MevzuatTertip=5)		
53.	Relevant GHG Program Registries	I-REC registry (https://evident.app/IREC/device-register/table) VCS registry (https://registry.terra.org/app/search/VCS/All%20Projects) Bio Carbon registry (https://biocarbonregistry.com/en/projects/) ICR registry (https://www.carbonregistry.com/explore/projects) Social Carbon registry (https://wilder.earth/socialcarbon) UCR registry (https://www.ucarbonregistry.io/) Cercarbono registry (https://www.ecoregistry.io/projects-list/cercarbono-co2) GCC registry (https://projects.globalcarboncouncil.com/pages/submitted_projects)	-	PP
54.	PP	Monitoring Equipment List	-	PP
55.	Argus GmbH	Waste Characterization Study of the Project	2012	PP

No.	Author	Title	References to the document	Provider
56.	PP	Hazardous Waste Storage Area Photographic Evidences	-	PP
57.	PP	Wastewater Storage Tank Photographic Evidences	-	PP
58.	PP	Domestic Waste Storage Container Photographic Evidences	-	PP
59.	PP	Annual Reports to GS by PP Screenshots of 2022 and 2023 Annual Reports through the GS Registry	08/12/2023 20/12/2024 -	Gold Standard Registry
60.	Ministry of Environment and Urbanization	Ministry of Environment and Urbanization web site (https://cygm.csb.gov.tr/sifir-atik-ile-geri-kazanim-orani-35e-ulasti.-haber-286897#:~:text=S%C4%B1f%C4%B1r%20at%C4%B1k%20konusunda%20yakla%C5%9F%C4%B1k%2021,34%2C92'ye%20y%C3%BCKselmi%C5%9Ftir.)	-	-
61.	Association of Recycling and Recovering Facilities	Association of Recycling and Recovering Facilities in Turkiye web site (https://gekader.org.tr/turkiye-ve-avrupadaki-atik-aritiminda-geri-donusum-oranlari/)	-	-
62.	Climate and Meteorological Data Web Site	Samsun climate and meteorological data web site (https://en.climate-data.org/asia/Turkiye/samsun/samsun-268/)	-	PP
63.	General Directorate of Meteorology in Turkiye Web Site	General Directorate of Meteorology in Turkiye (https://www.mgm.gov.tr/veridegerlendirme/il-ve-ilceler-istatistik.aspx?k=A&m=SA MSUN https://www.mgm.gov.tr/arastrirma/buharlasma.aspx?s=2023)	-	PP
64.	UNFCCC	Fifth Assessment Report of the Intergovernmental		PP

No.	Author	Title	References to the document	Provider
		Panel on Climate Change (https://www.ipcc.ch/report/ar5/wg3/)		
65.	IPCC	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (https://www.ipcc-nggip.iges.or.jp/public/2019rf/vol5.html)	2019	PP
66.	MWM	Screenshots of the Gas Engines Control System	-	PP
67.	Aris Enerji A.Ş.	Signed Declaration About Replacement, Commissioning and Control of the Thermocouple, Flow Meter-3 and UV Flame Detector	15/04/2024	PP
68.	CS Instruments	Photographic Evidence of Flow Meter-3	02/11/2018	PP
69.	MRU Baca Gazı Ltd. Şti.	Signed Confirmation Declaration by the Supplier Firm (About the Non-Necessity of the Calibration of the Sensors of the Temperature Measurement Device of MRU Gas Analyser)	13/01/2025	PP
70.	-	Site Photos	05/06/2024	-

Annex 1: Detailed Findings

Summary of findings	CAR	CL	FAR
	09	01	01

Table 1. CL from this validation

CL ID	01	Section no.	N/A	Date: 28/06/2024
Description of CL				
There are two FARs from the last verification process including its GS performance review stage: a) FAR-1: On-site audit shall be resumed when Covid-19 situation eases. PD shall refer to the latest version of the COVID-19 interim measures published by GS4GG. b) FAR-2: Considering the difference of realized from estimated, 73% more ER monitored during 1st MP. It was reasoned with account of better collection of gas and utilization in the engines rather than flaring. Besides that, the gas projection from the first order decay model as per the methodology deviating from the actuals is indicated. If similar difference is observed during 2nd MP, project shall apply for design change request as per Design Change Requirements para 3.1.5 (a-i).				
PP response				Date: 21/09/2024
a) This is CP3 renewal process. But VVB and PP has arranged physical on-site visit in June 2024. b) 2nd MP ER amount is -%2.81 lower than expectation and the verification of the same has been going on. So there is no need to apply for design change request as per Design Change Requirements para 3.1.5 (a-i)				
Documentation provided by PP				
N/A				
VVB assessment				Date: 16/11/2024
a) Ok Closed (The on-site visit has been handled on 05/06/2024). b) This will be checked and assessed during the next verification and FAR 01 has been issued and please see FAR 01.				

Table 2. CAR from this validation

CAR ID	01	Section no.	4.6	Date:	28/06/2024
Description of CAR					

a) Please clarify the CP1 details in the cover page of the PDD. b) Please clarify the meaning of “Between 20 and 25 employees” throughout the PDD including the Table-1. c) Please include the technical lifetime of the project in the Section A.1 of the PDD along with the relevant reference. d) Please provide the reference for the estimated electricity generation amount in the Section A.1 of the PDD. e) Please include the reference for the provided coordinates in the Section A.2 of the PDD. f) Please include the host country name consistently throughout the PDD. g) The justification for the expected project lifetime hasn’t been provided in the Section C.1.2 of the PDD.	
PP response	Date: 21/09/2024
a) The CP1 and CP2 details have been added in the cover page of the PDD. b) The employee number can be changed “Between 20 and 25 employees”. So it was also same during CP2. c) The technical lifetime of the project is 28 years according to generation license and it has been added in the Section A.1 of the PDD along with the relevant reference. d) The related “Samsun Avdan LFG_Summary Waste flow analysis and technical survey of MSP” has been added as footnote 3 reference for the estimated electricity generation amount in the Section A.1 of the PDD. e) The reference for the provided coordinates is registered first CP1’s PDD. It has been added in the Section A.1 of the PDD. f) The host country name consistently throughout the PDD except the name of the project. Because the registered GS905’s project name included Turkey. g) The justification for the expected project lifetime has been provided as agreement with municipality and generation license in the Section C.1.2 of the PDD now.	
Documentation provided by PP	
Revised PDD and generation licence	
VVB assessment	Date: 16/11/2024
a) Ok Closed (The cover page has been revised by PP accordingly). b) Ok Closed (PDD has been revised accordingly). c) d) Ok Closed (Section A.1 of the PDD has been revised by PP accordingly and the generation licence has been provided as an evidence document). e) Ok Closed (The registered PDD has been included as a reference). f) Ok Closed (PDD has been revised by PP accordingly). g) Ok Closed (Section A.1 of the PDD has been revised by PP accordingly and the generation licence has been provided as an evidence document).	

CAR ID	02	Section no.	4.5	Date: 28/06/2024
Description of CAR				
a) Please provide the reference of technical details of the used equipment as referred in the Section A.3 of the PDD. b) Please include the references for the referred waste amount in the Section A.3 of the PDD along with the relevant evidences. c) Please correct the typo in the following sentence in the Section A.4 of the PDD: “The project activity capacity is 8.4 MWeI”. d) Please clarify the future tense and expected/planned type sentences throughout the PDD considering that the project is already operational.				
PP response				Date: 21/09/2024

a) The reference of technical details of the used equipment has been added as footnote 7 "Technical Data Sheets of Gas Engines" in the Section A.3 of the PDD. b) The proof document for the referred waste amount has been added as footnote 6 "Samsun Avdan LFG_Summary Waste flow analysis and technical survey of MSP" in the Section A.3 of the PDD. c) It has been revised as "The Samsun Landfill Gas to Energy project's capacity is 8.4 MW" d) The future tense and expected/planned type sentences have been revised accordingly throughout the PDD.	
Documentation provided by PP	
Revised PDD and supporting documents	
VVB assessment	Date: 16/11/2024
a) Ok Closed (Section A.3 of the PDD has been revised by PP accordingly). b) Ok Closed (Section A.1 of the PDD has been revised by PP accordingly and the technical document (Summary Waste flow analysis and technical survey of MSP) has been provided as an evidence document). c) Ok Closed (Section A.4 of the PDD has been revised by PP accordingly). d) Ok Closed (PDD has been revised by PP accordingly).	

CAR ID	03	Section no.	4.7.2 & 4.7.3	Date: 28/06/2024
Description of CL				
a) The version number of latest version of ACM0002 has not been included correctly throughout the PDD. b) The applicability conditions of latest version of ACM0002 haven't been included correctly and completely in the Section B.2 of the PDD. c) All tools referred in the Section B.1 of the PDD have not been included in the Section B.2 of the PDD. d) Please include the methodological tool numbers in the Section B.2 of the PDD. e) The version numbers of all referred tools have not been included in the Section B.1 of the PDD. f) The name and version numbers of some tools have been included incorrectly in the Sections B.1 and B.2 of the PDD. (e.g. Tool to determine project emissions from flaring gases containing methane and Project emissions from flaring etc.) g) Please include the relevant detailed justification for all non-used tools referred in the applied methodology in the Section B.2 of the PDD. h) Please clarify the following sentence in the Step 1.1 of the Section B.2 of the PDD: "From the beginning of the first crediting period to current date (beginning of the second crediting period),....." i) The provided table doesn't include the latest available data under the Step 1.2 of the "Toll 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period". j) The table numbers have not been included in the Section B.2 of the PDD. k) The meaning of the following sentence is not clear in the Section B.2 of the PDD: "The Project have a total capacity up to 8.4 MWe and this is not eligible for the use of AMS I.D".				
PP response				Date: 21/09/2024

- a) The version number of latest version of ACM0002 has been revised as version 22.0 throughout the PDD.
- b) The applicability conditions of latest version of ACM0002 have been included correctly and completely in the Section B.2 of the PDD.
- c) All tools referred in the Section B.1 of the PDD have been included in the Section B.2 of the PDD.
- d) The methodological tool numbers have been included in the Section B.2 of the PDD.
- e) The version numbers of all referred tools have been included in the Section B.1 of the PDD.
- f) The name and version numbers of some tools have been included correctly in the Sections B.1 and B.2 of the PDD.
- g) The non-used tools have been deleted in the Section B.2 of the PDD.
- h) The related sentence has been revised as "From the beginning of the first crediting period to current date beginning of the third crediting period)" in the Step 1.1 of the Section B.2 of the PDD..
- i) The related table has been deleted.
- j) The table numbers have been included in the Section B.2 of the PDD now.
- k) It has been revised accordingly.

Documentation provided by PP

Revised PDD

VVB assessment

Date: 16/11/2024

- a) Ok Closed (PDD has been revised by PP accordingly).
- b) c) d) Ok Closed (Section B.2 of the PDD has been revised by PP accordingly).
- e) Ok Closed (Section B.1 of the PDD has been revised by PP accordingly).
- f) Ok Closed (Sections B.1 and B.2 of the PDD have been revised by PP accordingly).
- g) h) Ok Closed (Section B.2 of the PDD has been revised by PP accordingly).
- i) j) k) Ok Closed (Section B.2 of the PDD has been revised by PP accordingly).

CAR ID	04	Section no.	4.7.4 & 4.8	Date:	28/06/2024
Description of CAR					
a) The baseline scenario has not been included completely in line with ACM0001 version 19.0 and ACM0002 version 22.0 in the Section B.4 of the PDD. b) The font size and type requirements have not been followed completely throughout the PDD in line with the relevant template. (e.g. Section B.4) c) Please include the reference for the following sentence in the Section B.4 of the PDD: "Installed electricity generation capacity in Turkey has reached 103,809 MW as of 2022". d) The justification about the compliance of the project with the Section 5.3.1 of the ACM0001 version 19.0 hasn't been provided in the Sections B.4 and B.5 of the PDD. e) Please clarify clearly whether the investment analysis and additionally assessment had been re-conducted in the Section B.5 of the PDD. f) Please include the CP dates in the Milestone Table of the Section B.5 of the PDD. g) Please include the justification details of Section B.5.1 of the PDD.					
PP response				Date: 21/09/2024	

a) The baseline scenario has been included completely in line with ACM0001 version 19.0 and ACM0002 version 22.0 in the Section B.4 of the PDD. b) The font size and type requirements have been corrected completely throughout the PDD in line with the relevant template including Section B.4 of the PDD. c) The reference for the following sentence has been included as footnote 52 in the Section B.4 of the PDD: "Installed electricity generation capacity in Turkey has reached 103,809 MW as of 2022". d) There is no need to provide the additionality part of Section 5.3.1 of the ACM0001 version 19.0 in the Sections B.4 and B.5 of the PDD and other baseline scenario part of Section 5.3.1 of the ACM0001 version 19.0 in the Sections B.4 and B.5 of the PDD. e) There is no new investment analysis or additionally assessment during this CP3 renewal design proves and the same has been clarified in the Section B.5 of the PDD. f) The CP dates has been added in the Milestone Table of the Section B.5 of the PDD. g) This is regular project and the related justification details as LSC meeting date has been added in the Section B.5.1 of the PDD.	
Documentation provided by PP	
Revised PDD	
VVB assessment	Date: 16/11/2024
a) Ok Closed (Section B.4 of the PDD has been revised by PP accordingly). b) Ok Closed (PDD has been revised by PP accordingly). c) Ok Closed (Footnote 52 has been included and Section B.4 of the PDD has been revised by PP accordingly). d) e) f) Ok Closed (Section B.5 of the PDD has been revised by PP accordingly). g) Ok Closed (Section B.5.1 of the PDD has been revised by PP accordingly).	

CAR ID	05	Section no.	4.8.1	Date: 28/06/2024
Description of CAR				
a) Please provide a short narrative that demonstrates how the revenue from Gold Standard certification is material to the ongoing sustainability of the project along with the relevant evidence documents. b) As per Principles & Requirements document paragraph 4.1.52, please include some data and numbers to show the contribution of GS revenues (this info does not have to be in PDD but has to be submitted to VVB). c) Please provide the signed declaration about the details of the ongoing financial need.				
PP response				Date: 21/09/2024
a) PDD has been revised. b) The evidence document has been provided. c) The signed declaration has been provided.				
Documentation provided by PP				
Revised PDD and ongoing financial need supporting evidences				
VVB assessment				Date: 16/11/2024
a) Ok Closed (Section B.5.2 of the PDD has been revised by PP accordingly). b) Ok Closed (The relevant evidence document has been provided). c) Ok Closed (The signed declaration by PP and third party chartered accountant and dated as 30/07/2024 has been provided).				

CAR ID	06	Section no.	4.7.5	Date: 28/06/2024
Description of CAR				
a) The methodological choices/approaches for estimating the SDG impact have not been included in the Section B.6.2 of the PDD as required by the relevant template. b) The fixed ex-ante data/parameters including their reference sources have not been included in the Section B.6.2 of the PDD as required by the relevant template. c) The ex-ante estimation of SDG impact has not been included in the Section B.6.3 of the PDD as required by the relevant template. d) The summary of ex ante estimates of each SDG impact including the relevant baseline and project estimates have not been included correctly in the Section B.6.4 of the PDD as required by the relevant template.				
PP response				Date: 21/09/2024
a) The methodological choices/approaches for estimating the SDG impact have been included in the Section B.6.2 of the PDD. b) The fixed ex-ante data/parameters including their reference sources have been already included in the Section B.6.2 of the PDD as required by the relevant template. c) The ex-ante estimation of SDG impact has been included in the Section B.6.3 of the PDD as required by the relevant template. d) The summary of ex ante estimates of each SDG impact including the relevant baseline and project estimates have been included correctly in the Section B.6.4 of the PDD as required by the relevant template.				
Documentation provided by PP				
Revised PDD				
VVB assessment				Date: 16/11/2024
a) b) Ok Closed (Section B.6.2 of the PDD has been revised by PP accordingly). c) Ok Closed (Section B.6.3 of the PDD has been revised by PP accordingly). d) Ok Closed (Section B.6.4 of the PDD has been revised by PP accordingly).				

CAR ID	07	Section no.	4.11	Date: 28/06/2024
Description of CAR				
a) The complimentary stakeholder meeting invitation evidences haven't been provided. b) The complimentary meeting records including the comments/questions by them and the associated responses actions haven't been provided. c) The reference to the design change is not clear in the Section E.1 of the PDD. d) Please clarify whether there is any complaint during the previous crediting periods in the Section E.1 of the PDD.				
PP response				Date: 21/09/2024
a) The complimentary stakeholder meeting invitation evidences have been provided to the VVB. b) The complimentary meeting records including the comments/questions by them and the associated responses actions have been provided to the VVB. c) There is no design change is here so it has been revised in the Section E.1 of the PDD. d) There is already mentioned no complaint during the previous crediting periods in the Section E.1 of the PDD.				
Documentation provided by PP				
Revised PDD and complimentary local stakeholder meeting records				
VVB assessment				Date: 16/11/2024

- a) b) Ok Closed (The complimentary local stakeholder meeting records have been provided).
c) d) Ok Closed (Section E.1 of the PDD has been revised by PP accordingly).

CAR ID	08	Section no.	4.7.5	Date:	28/06/2024
Description of CAR					
a) The version number of “Tool 04: Emission from solid waste disposal sites” hasn’t been provided correctly in the Parameters Excel Spreadsheet. b) The value of GWP_{CH_4} hasn’t been provided correctly in the Parameters Excel Spreadsheet and PDD. c) The justification of applied value of the parameters hasn’t been provided in the Parameters Excel Spreadsheet. d) All referred reference documents in the PDD and Parameters Excel Spreadsheet haven’t been provided (e.g. pre-feasibility study of Samsun landfill gas project, Waste characterization study of Samsun landfill gas project, Samsun Avdan Environmental and Technical Report Samsun Avdan Technical Feasibility Report, Baseline study etc.) e) The valid reference for the mean annual temperature (MAT) parameter hasn’t been provided in the Parameters Excel Spreadsheet and PDD. f) The reference for the amount of annual waste dumped hasn’t been provided in the Parameters Excel Spreadsheet and PDD. g) The basis and justification for the increase of 5% for the amount of annual waste dumped for each year hasn’t been provided in the Parameters Excel Spreadsheet and PDD. h) The amount of annual waste dumped has been provided inconsistently in the PDD and Parameters Excel Spreadsheet. (e.g. Section A.3 of the PDD and Parameters Excel Spreadsheet) i) The reference for the value of fy parameter hasn’t been provided in the Parameters Excel Spreadsheet and PDD. j) The justification for the MAP/PET ratio hasn’t been provided in the Parameters Excel Spreadsheet and PDD. k) The meaning of Table-5 in the Parameters Excel Spreadsheet is not clear. l) The justification for the wet basis waste type hasn’t been provided in the Parameters Excel Spreadsheet and PDD. m) The reference for the operational working hours hasn’t been provided in the BEgrid Excel Spreadsheet and PDD. n) The references for the annual biogas amount and the annual Total LFG generation on site haven’t been provided in the BEgrid Excel Spreadsheet and PDD. o) The purpose of “Captured and Destroyed Methane by Project Activity” column is not clear in the ERs Calculation Excel Spreadsheet. p) The baseline emissions haven’t been provided as an integer value in the column E of Combined Margin EF Excel Spreadsheet. q) The round down function hasn’t been applied in the Column C of ERs Calculation Excel Spreadsheet. r) The calculation details of project emissions from flaring including the relevant tool haven’t been provided in the Section B.6.1 of the PDD for the ex-ante and ex-post situations.					
PP response					Date:
					21/09/2024

a) The version number of “Tool 04: Emission from solid waste disposal sites” has been provided correctly in the Parameters Excel Spreadsheet. b) The value of GWP_{CH4} hasn’t been provided correctly in the Parameters Excel Spreadsheet and PDD. c) The justification of applied value of the parameters have been provided in the Parameters Excel Spreadsheet. d) All referred reference documents in the PDD and Parameters Excel Spreadsheet haven’t been provided e) The valid reference for the mean annual temperature (MAT) parameter has been provided in the Parameters Excel Spreadsheet and PDD. f) The reference for the amount of annual waste dumped has been provided in the Parameters Excel Spreadsheet and PDD. g) The basis and justification for the increase of 5% for the amount of annual waste dumped for each year hasn’t been provided in the Parameters Excel Spreadsheet and PDD. h) The amount of annual waste dumped has been provided inconsistently in the PDD and Parameters Excel Spreadsheet. i) The reference for the value of fy parameter has been provided in the Parameters Excel Spreadsheet and PDD. j) The justification for the MAP/PET ratio has been provided in the Parameters Excel Spreadsheet and PDD. k) The meaning of Table-5 has been revised as Table 1 in the Parameters Excel Spreadsheet is not clear. l) The justification for the wet basis waste type has been provided in the Parameters Excel Spreadsheet and PDD. m) The reference for the operational working hours has been provided in the BEgrid Excel Spreadsheet and PDD. n) The references for the annual biogas amount and the annual Total LFG generation on site have been provided in the BEgrid Excel Spreadsheet and PDD. o) The purpose of “Captured and Destroyed Methane by Project Activity” column is deleted in the ERs Calculation Excel Spreadsheet. p) The baseline emissions have been corrected as an integer value in the column E of Combined Margin EF Excel Spreadsheet. q) The round down function has been applied in the Column C of ERs Calculation Excel Spreadsheet. r) The calculation details of project emissions from flaring including the relevant tool have been provided in the Section B.6.1 of the PDD for the ex-ante and ex-post situations.	
Documentation provided by PP	
Revised PDD and ER Calculation Excel Spreadsheet	
VVB assessment	Date: 16/11/2024
a) Ok Closed (Parameters Excel Spreadsheet has been revised by PP accordingly). b) Ok Closed (Parameters Excel Spreadsheet and PDD have been revised by PP accordingly). c) Ok Closed (Parameters Excel Spreadsheet has been revised by PP accordingly). d) Ok Closed (Waste flow analysis and technical survey of MSP report and its summarized version have been provided as the main reference source). e) Ok Closed (Parameters Excel Spreadsheet and PDD have been revised by PP accordingly). f) Ok Closed (Parameters Excel Spreadsheet has been revised by PP accordingly Waste flow analysis and technical survey of MSP report and its summarized version have been provided as the main reference source). g) Ok Closed (Parameters Excel Spreadsheet and PDD have been revised by PP accordingly). h) i) j) Ok Closed (Parameters Excel Spreadsheet and PDD have been revised by PP accordingly). k) l) Ok Closed (Parameters Excel Spreadsheet has been revised by PP accordingly). m) n) Ok Closed (BEgrid Excel Spreadsheet and PDD have been revised by PP accordingly). o) Ok Closed ERs Calculation Excel Spreadsheet. has been revised by PP accordingly). p) Ok Closed (Combined Margin EF Excel Spreadsheet has been revised by PP accordingly). q) Ok Closed ERs Calculation Excel Spreadsheet. has been revised by PP accordingly). r) Ok Closed (Section B.6.1 of the PDD have been revised by PP accordingly).	

CAR ID	09	Section no.	4.7.5 & 4.9	Date: 28/06/2024
Description of CAR				
a) It is not clear why EPIAS records haven't been included as the main source in the Section B.7.1 of the PDD. b) Please include the relevant monitored data/parameters in line with the applied methodologies and associated tools. c) Please include the relevant methodology/tool reference in the Additional comment row of the relevant data/parameters in the Section B.7.1 of the PDD. d) $PE_{FC,j,y}$ as the monitored data/parameter is not clear in the Section B.7.1 of the PDD. e) Biogas collection as the monitored data/parameter is not clear in the Section B.7.1 of the PDD. f) The purpose of the formulae provided under Biogas Collection data/parameter is not clear in the Section B.7.1 of the PDD. g) Please provide the photographic evidences of currently available electricity meters. h) The calibration details of all monitoring equipment including the responsible staff/entity, frequency, validity period and relevant standard/regulation including the reference sources and justification etc. haven't been included in the Section B.7.1 of the PDD. i) The details of the monitoring equipment including the brand/type, serial number, accuracy class etc. haven't been included in the Section B.7.1 of the PDD. j) Please include the reference of meter calibration validity period in the Section B.7.1 of the PDD. k) Please include last meter test details in the Section B.7.1 of the PDD. l) Please provide the SDG Impact Tool using the relevant applicable template.				
PP response				Date: 21/09/2024
a) The main source has been changed as EPIAS records in the Section B.7.1 of the PDD. b) The relevant monitored data/parameters have been already included and they are in line with the applied methodologies and associated tools. c) The relevant methodology/tool reference have been already added in the Additional comment row of the relevant data/parameters in the Section B.7.1 of the PDD. d) $PE_{FC,j,y}$ as the monitored data/parameter has been deleted in the Section B.7.1 of the PDD. e) Biogas collection as the monitored data/parameter has been identified in the Section B.7.1 of the PDD. f) The purpose of the formulae provided under Biogas Collection data/parameter is very clear in the Section B.7.1 of the PDD. g) The photographic evidence of currently available electricity meters have been provided to the VVB. h) The calibration details of all monitoring equipment including the responsible staff/entity, frequency, validity period and relevant standard/regulation including the reference sources and justification etc. have been already included in the Section B.7.1 of the PDD. i) The details of the monitoring equipment including the brand/type, serial number, accuracy class etc. have been already included in the Section B.7.1 of the PDD. j) The reference of meter calibration validity period has been already provided in the Section B.7.1 of the PDD. k) The last meter test details official records have been already included in the Section B.7.1 of the PDD. And related official document has been provided to the VVB. l) The SDG Impact Tool has been provided to the VVB.				
Documentation provided by PP				
Revised PDD and SDG Impact Tool Excel Spreadsheet				
VVB assessment				Date: 16/11/2024
a) b) c) Ok Closed (Section B.7.1 of the PDD have been revised by PP accordingly). b) e) f) Ok Closed (Section B.7.1 of the PDD have been revised by PP accordingly). g) Ok Closed (The photographic evidences of the electricity meters have been provided). h) i) j) k) Ok Closed (Section B.7.1 of the PDD have been revised by PP accordingly). l) Ok Closed (SDG Impact Tool Excel Spreadsheet has been provided).				

Table 3. FAR from this validation

FAR ID	01	Section no.	N/A	Date: 28/06/2024
Description of FAR				
Considering the difference of realized from estimated, 73% more ER monitored during 1st MP. It was reasoned with account of better collection of gas and utilization in the engines rather than flaring. Besides that, the gas projection from the first order decay model as per the methodology deviating from the actuals is indicated. If similar difference is observed during 2nd MP, project shall apply for design change request as per Design Change Requirements para 3.1.5 (a-i).				
PP response				Date: 21/09/2024
This will be handled during the next verification.				
Documentation provided by PP				
N/A				
VVB assessment				Date: 16/11/2024
This will be checked and assessed during the next verification.				

Annex 2: Certificate of Competence

Personnel Name	Anıl SÖYLER				
Schemes	☒ CDM	☒ GCC	☒ GS	☒ VCS	☐ Other GHG Schemes (mention here)
Qualified to work as					
Team Leader	☒	Technical Expert	☒		
Validator/Verifier	☒	Financial Expert	☐		
Technical Reviewer	☒	Local Expert (Turkey)	☒		
Area(s) of Technical Expertise					
Sectoral Scope			Technical Area		
SS 01: Energy industries (renewable/non-renewable sources)			TA 1.2: Energy generation from renewable energy sources		
SS 13: Waste handling and disposal			TA 13.1 Waste Handling and Disposal		
			TA 13.2 Manure		
Approved by (Manager Competence & Training)			Shikha Sharma		
Approval date			03-01-2022		

Personnel Name	Rohit Badaya				
Schemes	☒ CDM	☒ GCC	☒ GS	☒ VCS	☐ Other GHG Schemes (mention here)
Qualified to work as					
Team Leader	☒	Technical Expert	☒		
Validator/Verifier	☒	Financial Expert	☒		
Technical Reviewer	☒	Local Expert (India)	☒		
Area(s) of Technical Expertise					
Sectoral Scope			Technical Area		
SS 01: Energy industries (renewable/non-renewable sources)			TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
			TA 1.2: Energy generation from renewable energy sources		
SS 3: Energy demand			TA 3.1. Energy Demand		
SS 13: Waste handling and disposal			TA 13.1 Waste Handling and Disposal		
			TA 13.2 Manure		
Approved by (Manager Competence & Training)			Manager C & T		
Approval date			11-10-2017		

History of the document

Version	Date	Nature of revision	Reviewed by	Approved by
6.0	20/02/2015	Revised For VVS 7.0	Manager CDM Quality 21/02/2015	Managing Director 24/02/2015
5.0	08/10/2014	Section 4.8.4 and 4.8.5 are revised based on the corrective actions proposed during the performance assessment.	Manager CDM Quality 13/10/2014	Managing Director 14/10/2013
4.0	29/07/2013	Revised for VVS 3.0 and 4.6 section added	Manager CDM Quality 04/08/2012	Managing Director 08/08/2013
3.0	05/09/2012	Revised for VVS track	Manager CDM Quality 07/09/2012	Managing Director 10/09/2012
2.0	31/12/2011	Comprehensively revised	Manager CDM Quality 31/12/2011	Managing Director 31/12/2011