

**Verification report for
GS4GG Project Activity
(Gold Standard for the Global Goals)**

BASIC INFORMATION

Title of the GS4GG Project	Gaziantep Landfill Gas to Energy Project, Turkey
GS ID of Project	GS 745
Version number of the verification and certification report	2.0
Completion date of the verification and certification report	25/08/2022
Monitoring period number and duration of this monitoring period	2 nd monitoring period (1 st monitoring period of 2 nd Crediting Period) Duration: 01/11/2018 to 31/10/2021 (inclusive of both dates)
Version number of the monitoring report to which this report applies	4.0 Dated: 14/08/2022
Project Representative (s)	EKI Energy Services Limited
Host Country	Turkey
Applied methodologies and standardized baselines	ACM0001 "Flaring or use of landfill gas" Version 18.0
Activity requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Mandatory sectoral scopes	Sectoral Scope 01: Grid-connected electricity generation from renewable sources Sectoral Scope 13: Waste Handling and Disposal
Product requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

Sustainable Development Goals Targeted	SDG Impact	Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	Units/Products
SDG:13 Climate Change	Emission reductions	246,347	VERs (t CO ₂ e)
SDG:7 Affordable and Clean Energy	MWh of renewable energy generated	117,063.41	MWh
SDG:8 Decent Work and Economic Growth	Number employment through project	17 workers employed and 9 trainings conducted	Number
Name of the Gold Standard approved auditor (VVB)		Earthood Services Private Limited	
Name, position and signature of the approver of the verification and certification report		 Dr. Kaviraj Singh Managing Director	

SECTION A. Executive summary

The GS Project activity entitled "Gaziantep Landfill Gas to Energy Project, Turkey" involves the collection and use of landfill gas discharging from the Gaziantep landfill of the Gaziantep city. It is used to generate electricity with the help of Gas engines which is supplied to the Turkish national grid. The activity consists of 5 gas engines, each with rated power of 1.131 Mwe and JGC 416 GS-L.L make, resulting in total installed capacity of 5.655 MW. The project activity generates approximately 21 GWh per year of electricity.

This project activity intends to reduce the GHG emissions and contributes in mitigation of climate change by replacing fossil fuel based power generation with electricity generated from landfill gas at the Gaziantep landfill site, in Gaziantep province, Turkey. The project also aims to provide sustainable economic and social contribution to the region.

CEV Enerji Üretim San. ve Tic. Ltd. Şti. is the project developer and is also responsible for carrying out the operations for this project activity.

This project activity contributes to preserving the natural resources which could have been used to produce the same amount of electricity if this project were not to exist.

The monitoring period covered under this verification is 01/11/2018 to 31/10/2021 (both dates included). The total GHG emission reductions for the current monitoring period is 246,347 tCO₂e. Further, The SDG benefits achieved from the Project Activity are listed in the table below in detail:

Sustainable Development Goals Targeted	SDG Impact	Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	Units/Products
SDG:13 Climate Change	Emission reductions	246,347	VERs (t CO ₂ e)
SDG:7 Affordable and Clean Energy	MWh of renewable energy generated	117,063.41	MWh
SDG:8 Decent Work and Economic Growth	Number employment through project	17 workers employed and 9 trainings conducted	Number

Scope of verification:

The verification is an independent and objective review for determination of the monitored reductions in GHG emissions by the VVB. The verification includes the implementation and operation of the PA as set out in the registered PDD/1/ in the monitoring period.

The verification tests the data and assertions set out in the monitoring report prepared for this monitoring period, and it is based on the review of the following:

- The approved methodology, ACM0001: Flaring or use of landfill gas, version 18.0/6/
- The registered PDD/1/ and monitoring plan
- UNFCCC criteria referred to in the Kyoto Protocol criteria and the CDM modalities and procedures as agreed in the Bonn Agreement and the Marrakech Accords
- GS4GG requirements

- v. The CDM Validation and Verification Standard (VVS) version 3.0/8/ and The CDM Project Standard (PS) version 3.0/9/
- vi. Relevant decisions, guidance, and clarifications of the CMP and CDM Executive Board and any other information and references relevant to the project activity's reported emission reductions
- vii. GS4GG Transition Annexure (approved)/5/

The verification has considered both quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC and GS4GG, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the PD/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification Process:

The verification process is conducted as per internal GS4GG Requirements, which includes the following steps;

- a) Contract with PD (client) and appointment of verification team and technical review team (refer Section B.1 and B.2 of this report)
- b) Desk review (refer Section D.1 of this report) of Monitoring Report and corresponding ER sheet by verification team and remote audit (including sampling approach (refer Section D.4 of this report) to be applied)
- c) Physical site visit by local assessor with checklist approved by TL (refer Section D.2 of this report)
- d) Follow up activities e.g., interviews (refer Section D.3 of this report)
- e) Reporting and closure of findings (CARs/CLs/FARs) and preparation of draft verification report (refer Section D.5 of this report)
- f) Independent technical review (refer Section B.2 of this report) of the draft verification report and final/revised documentation (e.g., Monitoring Report, corresponding ER sheet and evidences)
- g) Reporting and closure of TR comments/findings (refer Section D.5 of this report) (CARs/CLs/FARs) and final approval for the decision made (refer Section G and H of this report).
- h) Issuance of final verification report to contracted CME (or authorized representatives) and submission of request for issuance, as appropriate.

Verification Conclusion:

Based on the outcome of the verification process of the GS PA "Gaziantep Landfill Gas to Energy Project, Turkey" for the monitoring period 01/11/2018 to 31/10/2021 (including both dates), we confirm that the implementation of referenced registered PA is complying with applicable CDM and GS4GG rules and regulations as stated in the Monitoring Report (final) Version 4.0, dated 14/08/2022. The GHG emission reductions were calculated correctly ACM0001 "Flaring or use of landfill gas" Version 18.0 the basis of the approved baseline and monitoring methodologies ACM0001 "Flaring or use of landfill gas" Version 18.0/6/ and the monitoring plan contained in the registered PDD/1/.

Earthood Services Private Limited is able to certify that the emission reductions from the registered PA (GS 745) "Gaziantep Landfill Gas to Energy Project, Turkey" during the period 01/11/2018 to 31/10/2021 (including both days) amount to 246,347 tCO₂e. Therefore, this is being submitted for request for issuance, as per GS4GG and UNFCCC procedures.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team members

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews*	Validation findings
1.	Team Leader	IR	Garg	Shreya	Central office	Y	N	N	Y
2.	Verifier	IR	Garg	Shreya	Central office	Y	N	N	Y
3.	Technical Expert (TA 1.1, TA 13.1)	IR	Gautam	Ashok	Central office	Y	N	N	Y
4.	Meth Expert	IR	Gautam	Ashok	Central office	Y	N	N	Y
5.	Local Expert	IR	Agriman	Kubra	Central office	Y	Y	Y*	Y
6.	Trainee Verifier	IR	Kalita	Jahnabi	Central office	Y	N	N	Y

*On-site assessment was done by local expert with the help of a checklist provided by the TL

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	Mahala	Deepika	Central Office
2.	Technical Expert to TR (TA 13.1 & TA 1.1)	IR	Singh	Kaviraj	Central Office
3.	Approver	IR	Singh	Kaviraj	Central office

SECTION C. Application of materiality in conducting the verification

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	

1.	Human error in recording the readings	Low	Recording of readings for most of the parameters is automated and electronic and there is limited human intervention. Therefore, chances of possible human errors, in recording and archiving, are minimised.	Electronic records used for ER calculation was checked with the source data.
2.	Error in transferring the data to ER sheet	Medium	Transfer of data from source to ER calculation involve human intervention and might lead to some readings being copy and pasted inconsistently in the ER sheet from the source data.	The values reported in ER sheet/3/ was checked with their respective source data. The first value, last value and the total of the columns for all parameters was verified from the source data.

C.2. Consideration of materiality in conducting the verification

All errors identified were individual error and no extrapolation was required. The verification team confirms that the final ERs are free from material errors with reasonable level of assurance.

SECTION D. Means of verification

D.1. Desk/document review

The verification is performed primarily as a desk review of the documents submitted at various stages of assessments. The review is performed by assessment team using dedicated protocols (checklists). The assessment team cross checks the information provided in the documents (MR) and information from sources other than those used, if available, and also conducts independent background investigations. Earthood conducted a desk review as under:

- a) A review of the data and information presented to verify their completeness
- b) A review of the monitoring plan (as described in PDD), the monitoring methodology including applicable tool(s) and, where applicable, the applied standardized baseline, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures
- c) A review of calculations and assumptions made in determining the GHG data and emission reductions;
- d) An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions

The list of documents reviewed during the verification is provided under appendix 3 of this report.

D.2. On-site inspection

Duration of on-site inspection*				
No.	Activity performed on-site	Site location	Date	Team member

* Onsite assessment is not being conducted for the current verification, due to safety concerns over travel amid global pandemic COVID-19. The risk of contraction of novel coronavirus is the key reason behind limited travel activities being observed globally. The ongoing global pandemic

due outbreak of COVID-19 virus contraction has led people to adopt safe practices such as social distancing, and travel restrictions across international boundaries. Though commercial flights have resumed at the host country, passengers must carry a evidence of receiving a complete two dose COVID-19 vaccination course, with the final dose being administered at least two weeks before beginning the trip to the host country, Turkey/18/.

In lieu of the risks associated with COVID-19 pandemic, GS4GG had released interim measures on 04/04/2020 and now extended it upto 30/06/2022 (the fifth version of interim measures were issued on 21/12/2021)/16/.

The Interim Measures /16/ adopted by the Gold Standard for the Mandatory Site Visits by VVB are defined in Para 4.1 of the said measures. These interim measures suggest VVB to apply alternatives to the site visits, as discussed below:

"Para 4.1.1 (b) - If site visit cannot be postponed due to significant impact of delaying the site visit on VVB and/or project developer due to timeline/commitment as per validation/verification or GS-VERs delivery agreement, VVB may replace mandatory on-site visits with remote audits. The audit may include but not limited to validation, verification, the inclusion of VPAs, design change review etc.

Para 4.2.2 further defines the approach that may be undertaken for remote audits. These are –

- i. Use validation/verification techniques and advanced communication technology solutions to validate/verify information and compliance with applicable requirements to the extent possible, to ensure the completeness and credibility of the audit;
 - ii. Use means such as, but not limited to, tele/video meetings; interviews with relevant stakeholders, local authorities, project participants, persons responsible for data collections, end user and/or beneficiaries of the project; photographic evidence, video recordings; data collection using drones, satellite image (where possible); relevant documents; and other publicly available information.
 - iii. Transparently disclose in the audit report that
- The audit is undertaken remotely, and
 - Describe the alternative means used and justification that they are sufficient for the audit

ANNEX - 1 RECOMMENDED VALIDATION/VERIFICATION TECHNIQUES of GS4GG Covid-19 Interim Measures /16/ also states that

In assessing the information, the VVB shall apply the means of validation and verification, including, but not limited to:

- i. Cross checks between information provided in the PoA-DD/Monitoring report and information from third-party or publicly available sources other than those used; if available, the VVB's sectoral or local expertise; and, if necessary, independent background investigations.

Accordingly, the verification team has applied alternative means, which are discussed below.

Alternative means used by VVB:

1. On-site visit by the local expert (with a checklist prepared by the team leader) who took the physical tour of the site which included checking of all metering equipment and systems.
2. Remote interviews (telephonic/ video calls) with the PD to discuss the implementation of PA and monitoring procedures for various parameters.
3. Review of documentary evidence and supporting documents including, technical specifications gas engines, SCADA time meter data, calibration reports, etc. The entire list of documents reviewed for purpose of verification is available in Appendix 3 of this report.

These alternative methods were considered sufficient by the verification team for the current verification for this issuance and provide the VVB assessment team with enough evidence to arrive at a verification conclusion.

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Qput	Tosun	EKI Energy Services Limited	01/11/2021	Data management and reporting, Monitoring Report	Shreya Garg, Jahnabi Kalita and Kubra Agriman
2.	Ece	Cosgun	EKI Energy Services Limited	01/11/2021	Baseline, Project emissions and leakages, ER calculation	Shreya Garg, Jahnabi Kalita and Kubra Agriman
3.	Burah	Akay	CEV Enerji Üretim San. Ve Tic. Ltd. Şti.	01/11/2021	Project implementation, operation, technical specifications	Shreya Garg, Jahnabi Kalita and Kubra Agriman
4.	Yusuf	Acar	CEV Enerji Üretim San. Ve Tic. Ltd. Şti.	01/11/2021	QA/QC systems, Monitoring / measuring systems & data verification, Record keeping,	Shreya Garg, Jahnabi Kalita and Kubra Agriman
5.	Ibrahim Halil	Kalkan	CEV Enerji Üretim San. Ve Tic. Ltd. Şti.	01/11/2021	Meter specifications – Accuracy, make, Calibration requirements – procedure	Shreya Garg, Jahnabi Kalita and Kubra Agriman
6.	Altunbaş	İbrahim	CEV Enerji Üretim San. Ve Tic. Ltd. Şti.	01/11/2021	Project implementation, operation, technical specifications	Shreya Garg, Jahnabi Kalita and Kubra Agriman
7.	Kılıç	Serhat	CEV Enerji Üretim San. Ve Tic. Ltd. Şti.	01/11/2021	ER calculations, Monitoring	Shreya Garg, Jahnabi

					\Report, monitoring procedures	Kalita and Kubra Agriman
8.	Mayda	Mehmet	Local Stakeholder (Mukhtar of Akbulut Village)	01/11/2021	Stakeholder Feedback and Grievances	Shreya Garg, Jahnabi Kalita and Kubra Agriman
9.	Mayda	Mustafa	Local Stakeholder (Villager of Akbulut Village)	01/11/2021	Stakeholder Feedback and Grievances	Shreya Garg, Jahnabi Kalita and Kubra Agriman

D.4. Sampling approach

No Sampling plan has been applied by the verification team as all the monthly reported figures in the MR/2/ and ER sheet /3/ were checked from source data.

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	-	CAR#01	-
Compliance of the project implementation and operation with the registered PDD	CL#02	CAR#03	-
Post-registration changes	-	-	-
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	-	-	-
Compliance of monitoring activities with the registered monitoring plan	-	CAR#06	-
Compliance with the calibration frequency requirements for measuring instruments	CL#01	-	-
Assessment of data and calculation of emission reductions or net removals	CL#05	CAR#04 CAR#05	FAR#01
Assessment of data and calculation of SDG impacts	-	-	-
Assessment of reported sustainable development co-benefits	-	CAR#02	-
Local stakeholder consultation	CL#03	-	-
Others (Deviation Request)	CL#04		
Total	05	06	01

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means verification	of VVB checked from the Gold Standard website that the prescribed form has been used for preparing the Monitoring Report/2/. The PD used the Gold Standards for Global Goals latest MR template version 1.1 available on the GS webpage and all the details were filled as per the MR filling guidelines.
---------------------------	---

Findings	CAR#01 was raised and resolved
Conclusion	The verification team confirms the compliance of the monitoring report with the latest version of the GS monitoring report template and the instructions therein for filling out the form.

E.2. Remaining forward action requests from validation and/or previous verifications

There is no FAR raised during previous verification of the PA or was raised during the GS review

E.3. Compliance of the project implementation with the registered project design document

Means of verification	The GS PA entitled "Gaziantep landfill Gas to Energy project, Turkey" involves collection and utilization of landfill gas and generate electricity through gas engine which is supplied to the Turkish National Grid. This activity generates nearly 21 GWh per year of electricity. The project is developed and operated by CEV Enerji Üretim San. Ve Tic. Ltd. Şt. The project activity is located at the Gaziantep landfill site, in Gaziantep province, Turkey.The Geo-coordinate of the project activity were as follows: 36° 59' 12" S and 37° 24' 11" E, which was confirmed during the on-site assessment by local expert/20/. Following monitoring equipment were found to be installed onsite: 1. Five gas engine manufactured by GE Jenbacher A-6200, of type JGS416GS-L.L, each with rated power of 1.131 MW with serial no: GM1 Serial No: 6262071 GM2 Serial No: 1021385 GM3 Serial No: 1021394 GM4 Serial No: 1021397 GM5 Serial No: 1021400 2. A Gas analyzer manufactured by EMERSON / X-Stream, of PDS 103-912GC.A01 type and serial no. XMC09902465136 3. A flowmeter manufactured by SIERRA Instruments, of model 640S-NAA-L13-M0-E2-P2-V4-DD-5 and serial no. 127736 • The details of each of the above equipment were found to be consistent with their respective nameplates as observed onsite by the local expert/20/. • The local expert has shared all the photos clicked during the assessment/20/ which were checked by the team leader and the technical expert to confirm that the project activity is implemented in line with the revised and approved PDD/1/. • The project activity is consistent with the description given in the revised and approved PDD/1/. • All the monitoring points/equipment used in project activity are assessed in detail under section E.6.2. of this report which is relevant for each of the parameters.
------------------------------	---

	Interview of the monitoring personals reveal that all the QA/QC procedures listed in the revised and approved PDD/1/ has been applied while the operation of the project activity was confirmed through the document review and on-site inspection conducted by a local expert. The achieved emission reductions during the current monitoring period from 01/11/2018 to 31/10/2021 (inclusive of both dates) are 246,347 tCO₂e.
Findings	CL#02 and CAR#03 was raised and resolved
Conclusion	Following the completion of the interviews and onsite assessment by the Local Expert, the verification team is able to confirm that all physical features (technology, project equipment (as applicable) of the registered GS PA was in place and that the PD has operated the project activity as per the registered PDD/1/ during the concerned monitoring period.

E.4. Post-Design Certification changes

E.4.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

According to para 5.1.50 of GS4GG principles and requirement/1/"Transitioning projects, maintaining their existing crediting cycle shall undergo Performance Certification no later than the first two years after project implementation or design certification, whichever is later, and once every three years after that, unless the Verifier provides a convincing case for less frequent visits as part of the Verification Report". During the current verification of the GS PA, entitled "Gaziantep Landfill Gas to Energy Project, Turkey), on site assessment was carried out by VVB's local expert on 01/11/2021. Therefore the start date of the monitoring period for the GS PA is from 01/11/2018.

Further the PP ensured that there were no gaps in reporting of SDG contributions during the aforementioned period where gap in consecutive verification had been identified and the project continued to record the contributions towards SDG 7, SDG 8 and SDG 13 however no claims are being made for the period where gap had been identified and on a conservative note the SDG benefits for the aforementioned period has been considered to be zero.

E.4.2. Corrections

Not Applicable

E.4.3. Changes to start date of crediting period

Not Applicable

E.4.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

Not Applicable

E.4.5. Changes to project design of approved project

Not Applicable

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	The monitoring plan as contained in the revised approved PDD/1/ was reviewed against the monitoring requirements of the applied
------------------------------	---

	methodology ACM0001 version 18.0/6/. Based on this review it was found the monitoring plan contained in the PDD/1/ includes all the required parameters to be monitored in the context of project design and description and allows proper determination of emission reductions in accordance with the revised approved PDD /1/ and applied methodology ACM0001 version 18.0/6/.
Findings	None
Conclusion	The monitoring plan outlined in the revised approved PDD/1/ is in accordance with the applied methodology ACM0001 version 18.0/6/ and correctly applied by the registered GS project activity.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste), OX, Dimensionless

Means of verification	The applied value is 0.1 sourced from IPCC 2006 Guidelines for National Greenhouse Gas Inventories/41/. It is consistently reported in MR/2/ inline to revised approved PDD/1/
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Fraction of methane that would be oxidized in the top layer of the SWDS in the baseline, OX_{top-layer}, Dimensionless

Means of verification	The applied value is 0.1 as the flares are installed at lower height as per the tool "Emissions from solid disposal sites", version 8.0/24/. It is consistently reported in MR/2/ inline to revised approved PDD/1/
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Global Warming Potential value for methane, GWP_{CH4}, tCO₂e/tCH₄

Means of verification	The MR/8/ applies a value of 28. The applied value of GWP was found to be appropriate as it was sourced from the fifth assessment report of IPCC/21/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Efficiency of the LFG capture system that will be installed in the project activity, n_{PJ}, Dimensionless

Means of verification	The value of the parameter is 40%. The applied value is sourced from technical specification of the power plant (blower)/22/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Universal ideal gases constant, Ru, Pa.m³/kmol.K

Means of verification	The value of the parameter is 8,314, which is sourced from tool: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream"/23/.
Findings	CL#05 was raised and resolved

Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.
-------------------	--

Molecular mass of CH₄, MM_{CH₄}, kg/kmol

Means verification	The value of the parameter is 16.04, which is sourced from tool: "Tool to determine the mass flow of a greenhouse gas in a gaseous stream"/23/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Default value for the model correction factor to account for model uncertainties, ϕ_{default}

Means verification	The value of the parameter is 0.75, as the project activity falls under option A of the applied methodology ACM0001 version 18.0/6/. It is inline to revised approved PDD/1/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

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

Means verification	The value of the parameter is 0.5, which is sourced from methodological tool: "Emissions from solid disposal sites"/24/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Default value for the fraction of degradable organic carbon (DOC) in MSW that can decompose in the SWDS, DOC_{f,default}, Weight fraction

Means verification	The value of the parameter is 0.5 as the project activity falls under Application A as per as the methodological tool: "Emissions from solid disposal sites"/24/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Methane correction factor, MCF_{default}

Means verification	The value of the parameter is 1 as the baseline falls under the definition "anaerobic managed solid waste disposal site" as per as the methodological tool: "Emissions from solid disposal sites"/24/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Fraction of degradable organic carbon in waste type j (weight fraction), DOC_j

Means verification	The following value of the parameter has been applied:
---------------------------	--

	Waste type j	DOCj (% wet waste)
	Wood and wood products	43
	Pulp, paper and cardboard	40
	Food, food waste, beverages and tobacco	15
	Textiles	24
	Garden, yard and park waste	20
	Glass, plastic, metal, other inert	0
The applied values are in line with the methodological tool: "Emissions from solid disposal sites"/24/.		
Findings	CL#05 was raised and resolved	
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.	

Decay rate for the waste type j, kj, 1/yr

Means of verification	The following value of the parameter has been applied:		
	Waste type j		
	Slowly degrading	Pulp, paper, cardboard	0.04
		Wood, wood products and straw	0.02
	Moderately degrading	Other (non-food) organic putrescible garden and park waste	0.05
	Rapidly degrading	Food, food waste, sewage sludge, beverages and tobacco	0.06
	Based on the project location, the selection of appropriate values are made according to "boreal and temperate" and "dry" climate. The applied values are in line with the methodological tool: "Emissions from solid disposal sites"/24/.		
Findings	CL#05 was raised and resolved		
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.		

Combined Margin emission factor, EF_{grid,CM} (tCO₂/MWh)

Means of verification	The value of the parameter is 0.5325, which is sourced from methodological tool: "Tool to calculate the emission factor for an electricity system"/25/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Methane emissions that would be captured and destroyed to comply with national or local safety requirements or legal regulations in the year y, $F_{CH_4, BL, y}$, tCH_4

Means of verification	The value of the parameter is 0, which is in compliance with Turkey National laws and regulations/26/.
Findings	CL#05 was raised and resolved
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

E.6.2. Data and parameters monitored

SDG 7 (Indicators 7.2.1)

Net amount of electricity generated using LFG, $EC_{BL, y}$, MWh

Means of verification	Criteria/Requirements	Assessment/Observation																						
	Measuring/Reading /Recording frequency	Continuous																						
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes																						
	Monitoring equipment	<table><tr><th>Description</th><th colspan="2">Electricity Meters</th></tr><tr><td>Type</td><td>Main Meter</td><td>Spare Meter</td></tr><tr><td>Manufacturer</td><td>LSM50</td><td>C510.AMT. 5851.RS485</td></tr><tr><td>Serial Number</td><td>50002081</td><td>65000306</td></tr><tr><td>Previous Calibration</td><td>02/10/2019</td><td>15/04/2015</td></tr><tr><td>Subsequent Calibration</td><td>01/10/2029</td><td>04/04/2025</td></tr><tr><td>Manufacturing standard / Class</td><td>0.5S</td><td>0.5S</td></tr></table>		Description	Electricity Meters		Type	Main Meter	Spare Meter	Manufacturer	LSM50	C510.AMT. 5851.RS485	Serial Number	50002081	65000306	Previous Calibration	02/10/2019	15/04/2015	Subsequent Calibration	01/10/2029	04/04/2025	Manufacturing standard / Class	0.5S	0.5S
		Description	Electricity Meters																					
		Type	Main Meter	Spare Meter																				
		Manufacturer	LSM50	C510.AMT. 5851.RS485																				
Serial Number		50002081	65000306																					
Previous Calibration		02/10/2019	15/04/2015																					
Subsequent Calibration	01/10/2029	04/04/2025																						
Manufacturing standard / Class	0.5S	0.5S																						
Details of electricity meters were found to be consistent with observations made during on-site visit by the local expert.																								
Calibration frequency /interval:	Once every 10 years																							
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the	The registered monitoring plan specifies calibration in-line to the Regulation on "Measurement and Measuring Tools". Therefore, the 10 year calibration frequency is being followed in line to the Regulation on "Measurement and Measuring Tools".																							

	manufacturer's specifications?																															
	Is(are) calibration(s) valid for the whole reporting period?	Yes																														
	How were the values in the monitoring report verified?	The values for the monitoring period were as follows: <table border="1"> <thead> <tr> <th>Year</th><th></th><th>Value (MWh)</th></tr> </thead> <tbody> <tr> <td>01/11/2018</td><td>-</td><td>6,937.50</td></tr> <tr> <td>31/12/2018</td><td></td><td></td></tr> <tr> <td>01/01/2019</td><td>-</td><td>39,928.20</td></tr> <tr> <td>31/12/2019</td><td></td><td></td></tr> <tr> <td>01/01/2020</td><td>-</td><td>37,716.83</td></tr> <tr> <td>31/12/2020</td><td></td><td></td></tr> <tr> <td>01/01/2021</td><td>-</td><td>32,480.88</td></tr> <tr> <td>31/10/2021</td><td></td><td></td></tr> <tr> <td>Total</td><td></td><td>117,063.41</td></tr> </tbody> </table> They were verified with electricity sales invoices/27/. The value was found to be consistently reported in MR/2/ and ER sheet/3/.	Year		Value (MWh)	01/11/2018	-	6,937.50	31/12/2018			01/01/2019	-	39,928.20	31/12/2019			01/01/2020	-	37,716.83	31/12/2020			01/01/2021	-	32,480.88	31/10/2021			Total		117,063.41
	Year		Value (MWh)																													
	01/11/2018	-	6,937.50																													
31/12/2018																																
01/01/2019	-	39,928.20																														
31/12/2019																																
01/01/2020	-	37,716.83																														
31/12/2020																																
01/01/2021	-	32,480.88																														
31/10/2021																																
Total		117,063.41																														
If applicable, has the reported data been cross-checked with other available data?	NA.																															
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.																															
Findings	None																															
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.																															

Quantity of electricity consumed by the project activity , EC_{PJ,y}, MWh

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	

		<table border="1"> <thead> <tr> <th>Description</th> <th colspan="2">Electricity Meters</th> </tr> </thead> <tbody> <tr> <td>Type</td> <td>Main Meter</td> <td>Spare Meter</td> </tr> <tr> <td>Manufacturer</td> <td>LSM50</td> <td>C510.AMT.5851.RS485</td> </tr> <tr> <td>Serial Number</td> <td>50002081</td> <td>65000306</td> </tr> <tr> <td>Previous Calibration</td> <td>02/10/2019</td> <td>15/04/2015</td> </tr> <tr> <td>Subsequent Calibration</td> <td>01/10/2029</td> <td>04/04/2025</td> </tr> <tr> <td>Manufacturing standard / Class</td> <td>0.5S</td> <td>0.5S</td> </tr> </tbody> </table> Details of electricity meters were found to be consistent with observations made during on-site visit by the local expert.	Description	Electricity Meters		Type	Main Meter	Spare Meter	Manufacturer	LSM50	C510.AMT.5851.RS485	Serial Number	50002081	65000306	Previous Calibration	02/10/2019	15/04/2015	Subsequent Calibration	01/10/2029	04/04/2025	Manufacturing standard / Class	0.5S	0.5S
	Description	Electricity Meters																					
	Type	Main Meter	Spare Meter																				
	Manufacturer	LSM50	C510.AMT.5851.RS485																				
	Serial Number	50002081	65000306																				
	Previous Calibration	02/10/2019	15/04/2015																				
	Subsequent Calibration	01/10/2029	04/04/2025																				
	Manufacturing standard / Class	0.5S	0.5S																				
	Calibration frequency /interval:	Once every 10 years																					
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	The registered monitoring plan specifies calibration in-line to the Regulation on "Measurement and Measuring Tools. Therefore, the 10 year calibration frequency is being followed in line to the Regulation on "Measurement and Measuring Tools																					
Is(are) calibration(s) valid for the whole reporting period?	Yes																						
How were the values in the monitoring report verified?	The values for the monitoring period were as follows: <table border="1"> <thead> <tr> <th>Year</th> <th>Value (MWh)</th> </tr> </thead> <tbody> <tr> <td>01/11/2018 – 31/12/2018</td> <td>0.038</td> </tr> <tr> <td>01/01/2019 – 31/12/2019</td> <td>0.514</td> </tr> <tr> <td>01/01/2020 – 31/12/2020</td> <td>0.642</td> </tr> <tr> <td>01/01/2021 – 31/10/2021</td> <td>1.211</td> </tr> <tr> <td>Total</td> <td>2.405</td> </tr> </tbody> </table> They were verified with electricity sales invoices/27/. The value was found to be consistently reported in MR/2/ and ER sheet/3/.	Year	Value (MWh)	01/11/2018 – 31/12/2018	0.038	01/01/2019 – 31/12/2019	0.514	01/01/2020 – 31/12/2020	0.642	01/01/2021 – 31/10/2021	1.211	Total	2.405										
Year	Value (MWh)																						
01/11/2018 – 31/12/2018	0.038																						
01/01/2019 – 31/12/2019	0.514																						
01/01/2020 – 31/12/2020	0.642																						
01/01/2021 – 31/10/2021	1.211																						
Total	2.405																						

	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Average technical transmission and distribution losses, TDL_y, %

Means of verification	The value of the parameter is TDL _{j,y} : 20% (used to calculate PE _{EC}) TDL _{k,y} : 3% (used to calculate BE _y), which is sourced from methodological tool: "Tool to calculate baseline, project and/or leakage emissions from electricity consumption"/28/.
Findings	No findings were raised
Conclusion	The value applied was found to be consistent with the source of data of the revised approved PDD/1/.

Access to affordable and clean energy services, Avoided fossil fuel consumption, t/GWh, m³/GWh

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the	NA

	manufacturer's specifications?																																
	Is(are) calibration(s) valid for the whole reporting period?	NA																															
	How were the values in the monitoring report verified?	The values for the monitoring period is 117,063.41MWh which corresponds to the following expected fuel avoidance: <table border="1"> <thead> <tr> <th>Fuel Type</th><th>Avoided Fuel Consumption [t, m³]</th></tr> </thead> <tbody> <tr> <td>Coal</td><td>45,193</td></tr> <tr> <td>Lignite</td><td>181,346</td></tr> <tr> <td>Fuel Oil</td><td>34,438</td></tr> <tr> <td>Diesel Oil</td><td>56,291</td></tr> <tr> <td>LPG</td><td>-</td></tr> <tr> <td>Naphtha</td><td>27,802</td></tr> <tr> <td>Natural Gas</td><td>24,942</td></tr> </tbody> </table> During the monitoring period, the net electricity generation is assumed to be distributed between fossil fuels with the same weight as the fossil fuels. These values are multiplied with the fuel consumption intensities to find the respective reduction of fossil fuel consumption. The fossil fuel consumption intensity (t/GWh, m³/GWh) are ex-ante and are as following: <table border="1"> <thead> <tr> <th>Fuel Type</th><th>Fuel Consumption Intensity [t/GWh, m³/GWh]</th></tr> </thead> <tbody> <tr> <td>Coal</td><td>395</td></tr> <tr> <td>Lignite</td><td>1,585</td></tr> <tr> <td>Fuel Oil</td><td>301</td></tr> <tr> <td>Diesel Oil</td><td>492</td></tr> <tr> <td>LPG</td><td>0</td></tr> <tr> <td>Naphtha</td><td>243</td></tr> <tr> <td>Natural Gas</td><td>218</td></tr> </tbody> </table> The approach for the calculation of this parameter was found to be in accordance with the revised approved PDD/1/ and transition annex/5/.	Fuel Type	Avoided Fuel Consumption [t, m ³]	Coal	45,193	Lignite	181,346	Fuel Oil	34,438	Diesel Oil	56,291	LPG	-	Naphtha	27,802	Natural Gas	24,942	Fuel Type	Fuel Consumption Intensity [t/GWh, m ³ /GWh]	Coal	395	Lignite	1,585	Fuel Oil	301	Diesel Oil	492	LPG	0	Naphtha	243	Natural Gas
Fuel Type	Avoided Fuel Consumption [t, m ³]																																
Coal	45,193																																
Lignite	181,346																																
Fuel Oil	34,438																																
Diesel Oil	56,291																																
LPG	-																																
Naphtha	27,802																																
Natural Gas	24,942																																
Fuel Type	Fuel Consumption Intensity [t/GWh, m ³ /GWh]																																
Coal	395																																
Lignite	1,585																																
Fuel Oil	301																																
Diesel Oil	492																																
LPG	0																																
Naphtha	243																																
Natural Gas	218																																

	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

SDG 13 (Indicators 13.2.1)

Emission reductions achieved per year, BE_y, tCO_{2e}

Means of verification	Criteria/Requirements	Assessment/Observation	
	Measuring/Reading /Recording frequency	Calculated	
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA	
	Monitoring equipment	NA	
	Calibration frequency /interval:	NA	
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA	
	Is(are) calibration(s) valid for the whole reporting period?	NA	
	How were the values in the monitoring report verified?	The values for the monitoring period were as follows:	
		Period	BE_y (tCO_{2e})

		01/11/2018 - 13,723.5
		31/12/2018
		01/01/2019 - 82,116
		31/12/2019
		01/01/2020 - 82,116
		31/12/2020
		01/01/2021 - 68,392.5
		31/10/2021
		Total
		246,348
It was found that 246,348 tCO₂e has been reduced due to the project activity. This was checked by the verification team with the emission reduction calculation sheet/3/. The equations used for determining emission reductions due to the project activity was found to be in accordance with the in accordance with the applied methodology/6/ and registered PDD/1/.		
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Quantity of methane destroyed by generation of electricity, LFG_{elec} m³

Means of verification	Criteria/Requirements	Assessment/Observation	
	Measuring/Reading /Recording frequency	Continuous	
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes	
	Monitoring equipment	Description	Flow meter

		Model	640S-NAA-L13-M0-E2-P2-V4-DD-5												
		Manufacturer Serial Number	127736												
		Previous Calibration	28/09/2009												
		Subsequent Calibration	Valid all the time												
	Details of flow meter were found to be consistent with observations made during on-site visit by the local expert.														
	Calibration frequency /interval:	Valid all the time													
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes													
	Is(are) calibration(s) valid for the whole reporting period?	Yes													
How were the values in the monitoring report verified?	The values for the monitoring period were as follows: <table border="1"> <thead> <tr> <th>Period</th> <th>LFG_{elec} (m³)</th> </tr> </thead> <tbody> <tr> <td>01/11/2018 - 31/12/2018</td> <td>11,91,310.54</td> </tr> <tr> <td>01/01/2019 - 31/12/2019</td> <td>63,01,864.52</td> </tr> <tr> <td>01/01/2020 - 31/12/2020</td> <td>57,42,518.25</td> </tr> <tr> <td>01/01/2021 - 31/10/2021</td> <td>56,90,908.51</td> </tr> <tr> <td>Total</td> <td>1,89,26,601.82</td> </tr> </tbody> </table> They were verified with flow meter records/28/. The value was found to be consistent with the reported values in MR/2/ and ER sheet/3/.			Period	LFG _{elec} (m ³)	01/11/2018 - 31/12/2018	11,91,310.54	01/01/2019 - 31/12/2019	63,01,864.52	01/01/2020 - 31/12/2020	57,42,518.25	01/01/2021 - 31/10/2021	56,90,908.51	Total	1,89,26,601.82
Period	LFG _{elec} (m ³)														
01/11/2018 - 31/12/2018	11,91,310.54														
01/01/2019 - 31/12/2019	63,01,864.52														
01/01/2020 - 31/12/2020	57,42,518.25														
01/01/2021 - 31/10/2021	56,90,908.51														
Total	1,89,26,601.82														
If applicable, has the reported data been cross-checked with other available data?	NA.														
Does the data management ensure correct transfer of data and reporting of emission	Data management system was found to be reliable and appropriate.														

	reductions and are necessary QA/QC processes in place?	
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Operation of the energy plant, Operation of the energy plant, Hours

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous monitoring and monthly recording.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	Five gas engine of type JGS416GS-L.L, each with rated power of 1.131 MW with serial no: GM1 Serial No: 6262071 GM2 Serial No: 1021385 GM3 Serial No: 1021394 GM4 Serial No: 1021397 GM5 Serial No: 1021400 Details of gas engines were found to be consistent with observations made during on-site visit by the local expert.
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA

	Is(are) calibration(s) valid for the whole reporting period?	NA	
	How were the values in the monitoring report verified?	The values for the monitoring period were as follows:	
		Gas Engine	Operation Hours (h) within the monitoring period
		GM1	58062
		GM2	62779
GM3		60887	
GM4		56917	
	GM5	59074	
	The value was found to be consistently reported in MR/2/.		
	If applicable, has the reported data been cross-checked with other available data?	NA.	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.	
Findings	None		
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.		

Regulatory requirements relating landfill gas projects, AF, %

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous monitoring and monthly recording.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The value of the parameter is sourced from National laws and regulations
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not	NA

	specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The values for the monitoring period is 0. As there is no change in the legislative structure that forces old landfill sites to utilize landfill gas and no change to article 27 of the relevant regulation "Control of Solid Waste Regulation" and has been considered 0. The value was found to be consistently reported in MR/2/ and ER sheet/3/.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Operation of the equipment that consumes the LFG, Op_{j,h}

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Hourly
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The value of the parameter is sourced from applied methodology ACM0001 version 18.0/6/.

	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value for the monitoring period is 0. The choice of the value is as no products are generated in hour h during the current monitoring period. This was found in line with the applied methodology ACM0001 version 18.0/6/. The value was found to be consistently reported in MR/2/ and ER sheet/3/.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Management of SWDS, Management of SWDS

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and	Yes

	monitoring methodology? (Yes / No)	
	Monitoring equipment	NA
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	NA. Project participant has referred to the original design of the landfill to ensure that any practice to increase methane generation have been occurring prior to the implementation of the project activity
	If applicable, has the reported data been cross- checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Volumetric fraction of CH₄ in a time interval t on a dry basis, $v_{CH_4,t,db,engine}$, m³ gas CH₄/m³ dry gas

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes										
	Monitoring equipment	<table border="1"> <thead> <tr> <th>Description</th><th>Gas Analyzer</th></tr> </thead> <tbody> <tr> <td>Type</td><td>X-STREAM-2M 1.10 23.06.09</td></tr> <tr> <td>Serial Number</td><td>XMC09902465136</td></tr> <tr> <td>Date of Calibration</td><td>22/09/2009</td></tr> <tr> <td>Subsequent Calibration</td><td>Valid all the time</td></tr> </tbody> </table> Details of gas analyzer were found to be consistent with observations made during on-site visit by the local expert.	Description	Gas Analyzer	Type	X-STREAM-2M 1.10 23.06.09	Serial Number	XMC09902465136	Date of Calibration	22/09/2009	Subsequent Calibration	Valid all the time
	Description	Gas Analyzer										
	Type	X-STREAM-2M 1.10 23.06.09										
	Serial Number	XMC09902465136										
	Date of Calibration	22/09/2009										
	Subsequent Calibration	Valid all the time										
	Calibration frequency /interval:	Valid all the time										
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Calibration is according to manufacturer's specifications.											
Is(are) calibration(s) valid for the whole reporting period?	Yes											
How were the values in the monitoring report verified?	The value for the monitoring period is 0.49. The value has been fixed based on continuous monitoring by the gas analyzer operating in dry basis.											
If applicable, has the reported data been cross-checked with other available data?	NA.											
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.											
Findings	None											
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and											

procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.

Volumetric flow of the gaseous stream in time interval t on a dry basis, $V_{t,db,engine}$, $Nm^3/year$

Means of verification	Criteria/Requirements	Assessment/Observation											
	Measuring/Reading /Recording frequency	Continuous											
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes											
	Monitoring equipment	<table border="1"> <thead> <tr> <th>Description</th> <th>Flow meter</th> </tr> </thead> <tbody> <tr> <td>Model</td> <td>640S-NAA-L13-M0-E2-P2-V4-DD-5</td> </tr> <tr> <td>Manufacturer Serial Number</td> <td>127736</td> </tr> <tr> <td>Previous Calibration</td> <td>28/09/2009</td> </tr> <tr> <td>Subsequent Calibration</td> <td>Valid all the time</td> </tr> </tbody> </table> Details of flow meter were found to be consistent with observations made during on-site visit by the local expert.		Description	Flow meter	Model	640S-NAA-L13-M0-E2-P2-V4-DD-5	Manufacturer Serial Number	127736	Previous Calibration	28/09/2009	Subsequent Calibration	Valid all the time
	Description	Flow meter											
	Model	640S-NAA-L13-M0-E2-P2-V4-DD-5											
	Manufacturer Serial Number	127736											
	Previous Calibration	28/09/2009											
	Subsequent Calibration	Valid all the time											
	Calibration frequency /interval:	Valid all the time											
Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes												
Is(are) calibration(s) valid for the whole reporting period?	Yes												
How were the values in the monitoring report verified?	The values for the monitoring period were as follows: <table border="1"> <thead> <tr> <th>Period</th> <th></th> <th>Value (Nm^3)</th> </tr> </thead> <tbody> <tr> <td>01/11/2018 - 31/12/2018</td> <td>-</td> <td>2,431,246</td> </tr> <tr> <td>01/01/2019 - 31/12/2019</td> <td>-</td> <td>12,860,948</td> </tr> </tbody> </table>		Period		Value (Nm^3)	01/11/2018 - 31/12/2018	-	2,431,246	01/01/2019 - 31/12/2019	-	12,860,948		
Period		Value (Nm^3)											
01/11/2018 - 31/12/2018	-	2,431,246											
01/01/2019 - 31/12/2019	-	12,860,948											

		01/01/2020 - 31/12/2020	11,719,425
		01/01/2021 - 31/10/2021	11,614,099
		Total	38,625,718
	They were verified with flow meter records/28/. The value was found to be consistently reported in MR/2/ and ER sheet/3/.		
	If applicable, has the reported data been cross-checked with other available data?	NA.	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.	
Findings	None		
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.		

Temperature of the gaseous stream in time interval t, T_t, K

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The value is directly measured
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the	NA

	manufacturer's specifications?	
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value for the monitoring period is 60°C. Since all parameters are converted to normal conditions during the monitoring process, this parameter is only monitored to verify the applicability condition is met related gaseous stream flow temperature being 60°C. This was found to be in line with the applied methodology /6/.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Data management system was found to be reliable and appropriate.
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

The air quality is related to pollutants such as SO_x which are being emitted in the baseline scenario. As a representative indicator of air pollution, SO₂ is selected as further oxidation of sulfur dioxide may lead to acid rains and as it is a precursor to particulates in the atmosphere, both of which are environmental concerns, SO₂ emission, kg/MWh

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The value is sourced from Turkish Greenhouse Gas Inventory and electricity generation values of project/30/
	Calibration frequency /interval:	NA

	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value for the monitoring period is 1228.6 tons of SO ₂ reductions. As per as the National Inventory of Turkey/30/, total SO ₂ emission related to electricity generation is about 2.5 Mt. Total electricity generated during the current monitoring period is 117,063.41MWh. Thus, this is equal to 1228.6 tons of SO ₂ reductions
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

The air quality is related to pollutants such as NO_x which are being emitted in the baseline scenario. As a representative indicator of air pollution, nitrogen oxide is selected because mono-nitrogen oxides eventually form nitric acid when dissolved in atmospheric moisture, forming a component of acid rain, NO_x emission, kg/MWh

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuous
	Is measuring and reporting frequency in accordance with the monitoring plan and	Yes

	monitoring methodology? (Yes / No)	
	Monitoring equipment	The value is sourced from Turkish Greenhouse Gas Inventory and electricity generation values of project/30/
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value for the monitoring period is 378.47 tons of NOx reductions.. As per as the National Inventory of Turkey/30/, 378.47 tons of NOx reductions. Total electricity generated during the current monitoring period is 117,063.81 MWh. Thus, this is equal to 378.47 tons of NOx reductions.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Reduction of odor

Means of verification	Criteria/Requirements	Assessment/Observation
-----------------------	-----------------------	------------------------

	Measuring/Reading /Recording frequency	Periodically
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The parameter is determined by interviewing with local community
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The project activity reduces H2S (a foul-smelling gas) and VOC emissions by collecting LFG that would otherwise be released freely in the atmosphere frequently towards nearby neighbourhoods.
	If applicable, has the reported data been cross-checked with other available data?	NA.
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA	
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Reduction of Volatile Organic Compounds, m³

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The parameter is determined by measuring the amount of methane destroyed through combustion or flaring
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value for the monitoring period is 1,035,253. As per as "Estimating Landfill Greenhouse Gas Emissions from Measured Ambient Methane Concentrations and Dispersion Modeling"/31/, the non-methane VOCs account for around 2% of methane emissions. The Project activity destroys 12,621 tons or 17,606,042.56 m³ methane annually. Therefore, Baseline VOCs emissions accounts for 352,120.8 m³ (17,606,042.56 m³*2%). According to Gas Recovery and Utilization From Municipal Solid Waste Landfills/32/, it is expected that combustion or flaring will destroy more than 98% of VOCs. This accounts for 345,078.4 m³ of baseline emissions of VOCs.

		Thus for the current monitoring period VOCs reduced is: $345,078.4 \text{ m}^3 \times 3 \text{ years} = 1,035,253 \text{ m}^3$ The approach used for calculating the parameter was found to be conservative and therefore acceptable.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Water quality and quantity, Reduction of discharged cooling water in the baseline, m^3/MWh

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The net electricity generation of the project is being recorded and multiplied with the ex-ante cooling water discharge intensity.
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the	NA

	manufacturer's specifications?	
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value for the monitoring period is 4,272,814.465. As per as official statistics, 7.5 billion m³ cooling water was discharged by thermal power plants in Turkey in 2018/33/, and net electricity generation in thermal power plants in 2018 was 205,231,208 MWh , accounting to 36.5 m³/MWh discharged cooling water intensity/34/. Thus for the current monitoring period estimated discharged cooling water reduction is: $36.5 \text{ m}^3/\text{MWh} * 117,063.41 \text{ MWh} = 4,272,814.465 \text{ m}^3$ The approach used for calculating the parameter was found to be conservative and therefore acceptable.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

H₂S is emitted from the landfill site freely to the atmosphere, creating bad odor and worsens the living conditions of the nearby communities. Although there are several odorous gases in LFG, as a representative indicator of air pollution, hydrogen sulfide is selected because it is a very poisonous, flammable gas with the characteristic foul odor of rotten eggs, H₂S emission, kg

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and	Yes

	monitoring methodology? (Yes / No)	
	Monitoring equipment	The parameter is determined by measuring LFG destruction and multiplying with the ex-ante baseline H ₂ S intensity of the LFG
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value for the monitoring period is 1,359.9. The feasibility study of the project activity/35/ shows that the H ₂ S concentration in the LFG is 52.8 ppm on average. The project activity is expected to destroy 12,621 tons of methane annually accounting to avoidance of 1,359.9 kg H ₂ S emissions.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Leachate management

Means of verification	Criteria/Requirements	Assessment/Observation
-----------------------	-----------------------	------------------------

	Measuring/Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The parameter is measured by project participant
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The leachate is properly collected, stored and transported safely to the municipal treatment facility where the leachate water is disposed. The declaration of Gaziantep Metropolitan Municipality/35/ indicates was checked by the VVB that they are responsible of collecting the leachate from the project site.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Hazardous waste processing

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The parameter is determined by assessment of waste management practice
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The Gaziantep landfill only accepting municipal waste and not hazardous waste. Solid waste characterization reports/36/ and waste acceptance list/37/ with waste Codes determined according to the Waste Management Regulation were checked by the VVB and found to be acceptable.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and	

procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.

SDG 8 (Indicators 8.6.1)

Number of trainings, Quality of employment, Number

Means of verification	Criteria/Requirements	Assessment/Observation																			
	Measuring/Reading /Recording frequency	Once for each monitoring period																			
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes																			
	Monitoring equipment	The parameter is determined by number of Trainings sessions held during the monitoring period																			
	Calibration frequency /interval:	NA																			
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA																			
	Is(are) calibration(s) valid for the whole reporting period?	NA																			
	How were the values in the monitoring report verified?	The number of trainings conducted during the current monitoring period is 9 which is as follows:<table><tr><td>Sr No.</td><td>Training Date</td></tr><tr><td>1</td><td>08-09/05/2019</td></tr><tr><td>2</td><td>03-04/04/2019</td></tr><tr><td>3</td><td>24-25/12/2019</td></tr><tr><td>4</td><td>16-17/07/2019</td></tr><tr><td>5</td><td>18-19/06/2019</td></tr><tr><td>6</td><td>21-22/02/2019</td></tr><tr><td>7</td><td>02-03/03/2020</td></tr><tr><td>8</td><td>27-28/07/2020</td></tr><tr><td>9</td><td>05-06/01/2021</td></tr></table> Training records/38/ were checked by the VVB and it was found that the project site has deployed safe and secure	Sr No.	Training Date	1	08-09/05/2019	2	03-04/04/2019	3	24-25/12/2019	4	16-17/07/2019	5	18-19/06/2019	6	21-22/02/2019	7	02-03/03/2020	8	27-28/07/2020	9
Sr No.	Training Date																				
1	08-09/05/2019																				
2	03-04/04/2019																				
3	24-25/12/2019																				
4	16-17/07/2019																				
5	18-19/06/2019																				
6	21-22/02/2019																				
7	02-03/03/2020																				
8	27-28/07/2020																				
9	05-06/01/2021																				

		working environments for all workers. The information was further checked by the local expert during the on-site visit and found appropriate to contribute under indicator under SDG 8.6.1.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

SDG 8 (Indicators 8.5.2)

Safe and healthy working conditions, Quality of employment

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	The parameter is determined by assessment of working conditions by checking safety material, tasks of the personnel etc
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA

	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The PD provides training and education on occupational health and safety issues, thus ensuring a safe working environment to the employees. Following safety materials are also built in the project site to ensure safe and healthy working condition: • Electricity shock warnings • Fire extinguishers • First aid station • Precautions against coronavirus • Prohibited actions and warnings for transformer • Protective equipment and warning signs The training records were checked and discussed with the PD during on site assessment by the local expert /38/. Photographs of safety materials built in the project site provided by the PD were checked /42/. The VVB's local expert also confirmed the PD has taken appropriate safety measures to ensure a safe and healthy working condition for the employees. The information was found as verifiable and appropriate.
	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Number of employments, Quantitative employment and income generation

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Annually

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes															
	Monitoring equipment	The parameter is sourced from social security records of the employees															
	Calibration frequency /interval:	NA															
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA															
	Is(are) calibration(s) valid for the whole reporting period?	NA															
	How were the values in the monitoring report verified?	The Project activity has provided employment to an average of 17 employees during the current monitoring period. The year-wise employment generated by the project activity is as follows: 16 employments generated during 2018 15 employments generated during 2019 20 employments generated during 2020 20 employments generated during 2021 The table below provides the nature of jobs generated during the current monitoring period: <table border="1"> <thead> <tr> <th>Name</th> <th>Profession</th> </tr> </thead> <tbody> <tr> <td>Süleyman Konuş</td> <td>Technician</td> </tr> <tr> <td>Yusuf Acar</td> <td>Technician</td> </tr> <tr> <td>Doğan Irmak</td> <td>Technician</td> </tr> <tr> <td>Hamza Şeker</td> <td>Worker</td> </tr> <tr> <td>Burak Akay</td> <td>Accountant</td> </tr> <tr> <td>Ismail Cengiz</td> <td>Office Worker</td> </tr> <tr> <td>Mahmut Öztürk</td> <td>Gardener</td> </tr> </tbody> </table>	Name	Profession	Süleyman Konuş	Technician	Yusuf Acar	Technician	Doğan Irmak	Technician	Hamza Şeker	Worker	Burak Akay	Accountant	Ismail Cengiz	Office Worker	Mahmut Öztürk
Name	Profession																
Süleyman Konuş	Technician																
Yusuf Acar	Technician																
Doğan Irmak	Technician																
Hamza Şeker	Worker																
Burak Akay	Accountant																
Ismail Cengiz	Office Worker																
Mahmut Öztürk	Gardener																

		Arif Kahraman	Electrician
		Faruk Naim	Technician
		Mustafa Bozkurt	Security
		Ahmet Şeker	Technician
		Cüneyt Öner	Operator
		Do Min Ko	Manager
		Hüseyin Kahraman	Electrician
		Mehmet Şeker	Worker
		Ertuğrul Şeker	Worker
		Adem Bilgili	Plumber
		Mustafa Yilmaz	Construction Equipment Technician
		Mehmet Ersin Ari	Electrician
		Ömer Faruk Anik	Electrical and Electronics Engineer
		Ibrahim Halil Kalkan	Electrician
		Erdal Yalçın	Worker
		Yusuf Yilmaz	Machine Technician
		Suat Ramazan Özbolat	Machine Technician
		Mustafa Kalkan	Electrician
		Serhat Kiliç	Electrician
		Ibrahim Altunbaş	Electrician
		Ökkeş Pekmezci	Machine Oils Technician
		Aydin Altunova	General Area Curator
		Muhammet Hakan Incirli	Machine Maintainer
		Cuma Saridağ	Machine Maintainer
		Ahmet Tosun	Security
		Mehmet Uruç	General Area Curator
		Erkan Ercan	Electrician
		The employment records /38/ and employee contracts /39/ were checked to confirm the total direct jobs that have been created as a result of PA implementation.	
		NA.	
		If applicable, has the reported data been cross-checked with other available data?	

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

Balance of payments and investment, Value of the imported natural gas avoided (conservative)

Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring/Reading /Recording frequency	Continuously
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
	Monitoring equipment	NA as this parameter is calculated
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is(are) calibration(s) valid for the whole reporting period?	NA
	How were the values in the monitoring report verified?	The value of the parameter during the monitoring period is 1,893,336 USD. The average natural gas price at the host country is 4.74 USD/MMBtu/40/. While the electricity generated during the monitoring period is 117,063.41MWh, accounting for natural gas price of 1,893,336 USD. The calculation was found to be appropriate.

	If applicable, has the reported data been cross-checked with other available data?	NA.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	None	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan/1/ (as per measurement methods and procedures to be applied) and applied methodology/6/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan/1/.	

E.6.3. Comparison of monitored parameters with last monitoring period

Means of verification	The project is a landfill gas to energy generation project. This section is not applicable for non-community service activities as per GS4GG guidelines.
Findings	Not Applicable.
Conclusion	Not Applicable.

E.6.4. Implementation of sampling plan

Means of verification	No sampling plan has been followed and not required in the project.
Findings	Not applicable.
Conclusion	Not applicable.

E.7. Assessment of data and calculations of emission reductions or net removals

E.7.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

Means of verification	The targeted SDG and its corresponding baseline estimate are given below:		
	Sustainable Development Goals Targeted	SDG Impact	Baseline estimate
	13	Take urgent action to combat Climate Change and its impacts	246,348 tCO ₂ e
	7	Ensure access to affordable, reliable, sustainable and modern energy for all	0 MWh
	8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	-
SDG 13 Baseline emission was calculated using the approach given in the applied methodology/5/. The formula used for baseline estimation is as follows:			

$$BE_y = (1 - OX_{top_layer}) * (F_{CH_4,PJ,y} - F_{CH_4,BL,y}) * GWP_{CH_4} + BE_{EC,y}$$

$$F_{CH_4,t} = V_{t,db} * v_{CH_4,t,db} * \rho_{CH_4,t}$$

$$\rho_{CH_4,t} = \frac{P_t * MM_{CH_4}}{R_u * T_t}$$

$$BE_{EC,y} = \sum_k EC_{BL,k,y} * EF_{EL,k,y} * (1 + TDL_{k,y})$$

Where,

BE_y	Baseline emissions in year y [tCO ₂ e/yr]
OX_{top_layer}	Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline (dimensionless)
$F_{CH_4,PJ,y}$	Amount of methane in the LFG which is flared and or used in the project activity during a year y [tCH ₄ /yr];
$F_{CH_4,BL,y}$	Amount of methane in the LFG that would be flared in the baseline in year y (tCH ₄ /yr);
GWP_{CH_4}	Global Warming Potential value for methane [tCO ₂ e/tCH ₄]
$BE_{EC,y}$	Baseline emissions associated with the electricity generation in year y (tCO ₂ e/yr).
$F_{CH_4,t}$	Mass flow of CH ₄ in the gaseous stream in time interval t (kg gas/h)
$V_{t,db}$	Volumetric flow of the gaseous stream in time interval t on a dry basis (m ³ dry gas/h)
$v_{CH_4,t,db}$	Volumetric fraction of CH ₄ in the gaseous stream in a time interval t on a dry basis (m ³ gas i/m ³ dry gas)
$\rho_{CH_4,t}$	Density of CH ₄ in the gaseous stream in time interval t (kg gas i/m ³ gas i)
P_t	Absolute pressure of the gaseous stream in time interval t (Pa)
MM_{CH_4}	Molecular mass of greenhouse gas i (kg/kmol)
R_u	Universal ideal gases constant (Pa.m ³ /kmol.K)
T_t	Temperature of the gaseous stream in time interval t (K)
$BE_{EC,y}$	Baseline emissions from electricity consumption in year y (tCO ₂ e/yr)
$EC_{BL,k,y}$	Net amount of electricity generated using LFG in year y (MWh/yr)
$EF_{EL,k,y}$	Emission factor for electricity generation source k in year y ((tCO ₂ e/MWh)
$TDL_{k,y}$	Average technical and transmission and distribution losses for providing electricity to source k in year y
k	the sources of electricity generated by the grid

Equation was found to be correctly applied in the ER sheet/3/. Baseline emissions have been calculated as 246,347 tCO₂e.

Findings

No findings were raised.

Conclusion

- The verification team confirms that the monitored data was available in accordance with the registered monitoring plan;
- The monthly reported data was cross-checked, as prescribed in the revised approved PDD, with the relevant supportive and was found consistent;
- Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals have been followed;

d) The assumptions, emission factors and default values that were applied in the calculations have been justified.

E.7.2. Calculation of project value or estimation of project situation of each SDG Impact

Means of verification

The targeted SDG and its corresponding project estimate are given below:

Sustainable Development Goals Targeted	SDG Impact	Project estimate
13	Take urgent action to combat Climate Change and its impacts	1.40 tCO ₂ e
7	Ensure access to affordable, reliable, sustainable and modern energy for all	117,063.4120MWh
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	17workers employed and 9 trainings conducted

SDG13

Project emission estimation has been done in accordance with the registered monitoring plan/1/, applied methodology/6/. The equation used is as follows:

$$PE_y = PE_{EC,y}$$
$$PE_{EC,y} = \sum EC_{PJ,j,y} * EF_{EL,j,y} * (1 + TDL_{j,y})$$

Where:

$PE_{EC,y}$	Project emissions from electricity consumption by the project activity during the year y (tCO ₂ /yr)
$EC_{PJ,y}$	Quantity of electricity consumed by the project electricity consumption source j in year y (MWh/yr)
$EF_{EL,j,y}$	Emission factor for electricity generation for source j in year y (tCO ₂ /MWh)
$TDL_{j,y}$	Average technical transmission and distribution losses in the grid in year y for the voltage level at which electricity is obtained from the grid at the project site
J	Sources of electricity consumption in project

Equations were found to be correctly applied in the ER sheet/3/. Project emission was calculated as 0 as there is no consumption of fossil fuels due to the project activity, for the purpose other than electricity generation. Therefore, there are no emissions from fossil fuel consumption.

SDG 7

For the current monitoring period, the clean energy generation contributed by the project activity is 117,063.41MWh.

SDG 8

	The project leads to employment opportunities which would not have been possible in the baseline scenario. The project provides employment to 17 workers and also 9 trainings conducted.
Findings	No findings were raised.
Conclusion	The verification team confirmed that: a) A complete set of data for the monitoring period was available and the verification of each monitoring parameter is elaborated under section of this verification report. Also, the monitoring has been provided for the review in the ER calculation sheet /3/. b) The information provide in the monitoring report // was cross-checked with other source, wherever appropriate.

E.7.3.Calculation of leakage

Means of verification	In accordance with applied methodology ACM0001 "Flaring or Use of Landfill Gas", version 18.0/6/, no leakage effects are accounted.
Findings	No findings were raised.
Conclusion	Leakage assessment was found to be done in line to the applied methodology and verified from PDD/1/.

E.7.4.Calculations of net benefits or direct calculation for each SDG Impact

Means of verification	Net benefits achieved under each SDG Impact are tabulated below:				
	SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
	13	Take urgent action to combat Climate Change and its impacts	246,348 tCO ₂ e	1.40 tCO ₂ e	246,347 tCO ₂ e
	7	Ensure access to affordable, reliable, sustainable and modern energy for all	0 MWh	117,063.41 MWh	117,063.41 MWh
	8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	-	17 employment generated and 9 trainings conducted	17 employment generated and 9 trainings conducted
The emission reductions are calculated as follows: $ER_y = BE_y - PE_y - LE_y$ Where: ER_y = Emission reductions (tCO₂e) BE_y = Baseline emissions (tCO₂e) PE_y = Project emissions due to electricity consumption from the grid (tCO₂e) LE_y = Leakage emissions (tCO₂e)					

Findings	No findings were raised.
Conclusion	The verification team verified that a) The complete data was available and is duly reported; b) The description with regards to cross-check of reported data is included under respective parameters and its assessment has been done in section E.6 of this report c) Appropriate methods and formulae for calculating baseline GHG emissions or baseline net GHG removals, project emissions and leakage emissions were followed d) The total number of ERs achieved during the current monitoring period is 378,155 tCO₂e.

E.7.5. Comparison of actual SDG Impacts with estimates in approved PDD

Means of verification	The value estimated in ex ante calculations of approved and registered PDD /1/ for the monitoring period and the actual values achieved during this monitoring period has been reported in section E.5 of the monitoring report /2/.		
	SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period
	13	246,348 tCO ₂ e	246,347 tCO ₂ e
	7	63,513 MWh	117,063.41 MWh
	8	Employment to at least 10 people and minimum 1 training per year	17 workers employed and 9 trainings conducted
	The emission reductions have been correctly calculated in accordance with the applied methodology /6/. The ER calculation sheet along with generation records, flow meter records were reviewed and all the values report in monitoring report is consistent with the ER sheet.		
Findings	No findings were raised.		
Conclusion	The verification team confirms that a) The actual values of achieved ERs during this monitoring period has been correctly reported in the monitoring report. b) The total number of ERs achieved during the current monitoring period is 246,347 tCO₂e		

E.7.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

Means of verification	As verified and evident from the Monitoring Report /2/ and corresponding ER calculations sheet /3/, the actual emission reductions achieved under this verification in the current monitoring period was 34.55% higher than the estimated quantity in the PDD/2/ for the comparable period. Therefore, inline para 2.1.4 of Rule Clarification "Assessment Approach for Reporting Higher Ex-post Emission Reductions"/43/ the amount of emission reductions achieved during each year of the current monitoring period has been capped to the annually estimated amount of emission reduction as per as the registered PDD /2/. The VVB confirms that the approach adopted by the PD was found to be conservative. However, in line with para 2.1.3 (b) of Rule Clarification "Assessment Approach for Reporting Higher Ex-post Emission Reductions" /43/ the VVB has raised a FAR#01 to keep track of the emission reductions achieved throughout the crediting period.
------------------------------	--

Findings	FAR#01 was raised
Conclusion	The verification team confirms the following: - All the data was available as the activity parameters were monitored in accordance with registered monitoring plan. - The appropriate method was followed to calculate emission reduction in line to revised approved PDD/1/.

E.8. Stakeholder Inputs and Legal Disputes

Means of verification	Not applicable
Findings	None
Conclusion	Not Applicable

E.9. Stakeholder inputs and legal disputes

E.9.1. Assessment of all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.

Means of verification	The PD has shared the contact information of Company Executive with the Mukhtars (heads of the village) of Akbulut Villages in order to record complaints, suggestions, or ideas about the project activity. As a result, there is continuous communication between the two parties. A grievance logbook was also made available to the head of Akbulut Village which will be checked during subsequent verifications. During the on-site visit by the VVB's local expert, the grievance logbook was checked, and it was confirmed that no complaints were registered for the current monitoring period. Moreover, during the on-site visit, VVB's local expert interviewed local villagers about their grievances. The complaints registered were resolved by the PD. The stakeholder interviews provides VVB with sufficient confidence that the grievances are taken into consideration and were found as duly resolved for the current monitoring period.
Findings	CL#03were raised and successfully closed.
Conclusion	The verification team confirms that the Project activity has no negative feedback on the operation and management of landfill site at the project location. It is confirmed that issues raised by local stakeholders during on site visit were satisfactorily addressed by PD.

E.9.2. Report on any stakeholder mitigations that were agreed to be monitored

Means of verification	There were no stakeholder mitigations that were agreed to be monitored during the current monitoring period.
Findings	None
Conclusion	Not Applicable.

E.9.3. Details of any legal contest that has arisen with the project during the monitoring period

Means of verification	There were no legal disputes during the current monitoring period. This has been confirmed through local stakeholder interviews during on-site visit by the VVB's local expert.
Findings	Not applicable.
Conclusion	Not Applicable.

SECTION F. Internal quality control

The draft verification report that is prepared by the verification team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by Earthood were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable GS4GG requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the verification team.

During the technical review process, additional findings may be identified, or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to Gold Standard. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the verification team. The decision taken by the Technical Reviewer is final and is authorized on behalf of Earthood Services Private Limited.

SECTION G. Verification opinion

Earthood Services Private Limited (here onwards referred as Earthood), contracted by, has performed the independent verification of the emission reductions for the GS Project 745 "Gaziantep Landfill Gas to Energy Project, Turkey" in the host country "Turkey" for the monitoring period 01/11/2018 to 31/10/2021 (inclusive of both dates), as reported in the Monitoring Report, Version 4.0, dated 14/08/2022. The project developers CEV Enerji Üretim San. ve Tic. Ltd. Şti. is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity. Earthood commenced the verification against the baseline and monitoring methodology "ACM0001- Flaring or use of landfill gas, Version 18.0", the monitoring plan contained in the VPA-DD, GS Transition Annex and Monitoring Report Version 4.0, dated 14/08/2022.

VVB's verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the verification by obtaining evidence and other information and explanations that Earthood considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

The verification team confirms that:

- The GS PA was found completely implemented as per the description given in the registered PDD.
- The actual operation conforms to the description in the registered registered PDD.

SECTION H. Certification statement

ESPL's verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that the reported GHG emission reductions are fairly stated.

In our opinion, the GHG emissions reductions reported for the project activity are fairly stated in the Monitoring Report (final) Version 4.0, dated 14/08/2022. ESPL, based on outcome of verification activities, certifies in writing that, during the monitoring period 01/11/2018 to 31/10/2021 (including both days), the registered GS PA Gaziantep Landfill Gas to Energy Project, Turkey" achieved the verified amount of 246,347 tCO₂e reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the PA.

The verified amount of emission reductions is stated below as per implemented VPAs and as per commitment period:

Verified and certified emission reductions as per commitment period:

Commitment period	Amount (tCO ₂ e)
From 01/11/2018-31/12/2018	13,723
From 01/01/2019-31/12/2019	82,116
From 01/01/2020-31/12/2020	82,116
From 01/01/2021-31/10/2021	68,392
Total	246,347

Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable Quality Level
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	Clean Development Mechanism Validation and Verification Standard
CEB	Central Electricity Board
CL	Clarification Request
DG	Diesel Generator
DNA	Designated National Authority
EB	Executive Board
Earthood	Earthood Services Private Limited
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
IR	Internal Resource
IPCC	Intergovernmental Panel on Climate Change
LFG	Landfill Gas
MR	Monitoring Report
MP	Monitoring Plan
MW	Mega Watt
PDD	Project Design Document
PD	Project Developer
PPA	Power Purchase Agreement
QA/QC	Quality Assurance / Quality Control
RMP	Revised Monitoring Plan
tCO ₂ e	tonnes of Carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VCR	Verification and Certification Report
VER	Verified Emission Reduction(s)
VVB	Validation and Verification Body
GS4GG	Gold Standard for Global Goals
SDG	Sustainable Development Goals

Appendix 2. Competence of team members and technical reviewers

Competence Statement	
Name	Shreya Garg
Country	India

Education	M.Sc. (Climate Science & Policy), TERI University		
Experience	6 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., ACM0002, ACM0012		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2, TA 3.1)		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Gautam	Date	01/03/2018

Competence Statement			
Name	Ashok Gautam		
Country	India		
Education	M. Sc. (Environmental Sciences) M. Tech. (Energy & Environmental Management)		
Experience	16 Years +		
Field	Energy, Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.A., AMS-I.C., AMS-I.E, AMS-II.D., AMS-II.G., AMS-III.E., AMS-III.H., AMS-III.Q, AMS-III.Z., AMS-III.AV., AMS III.AR, AM0029, AM0025, AM0056, ACM0001, ACM0002, ACM0004, ACM0012, ACM0006, AM0018, ACM0009, AM0034, AMS.I.B, ACM0016		
Local expert	YES (India)		
Financial Expert	YES		
Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1)		
Reviewed by	Deepika Mahala	Date	13/01/2022
Approved by	Kaviraj Singh	Date	13/01/2022

Competence Statement	
Name	Kubra Agriman
Education	BS Environmental Engineering
Experience	2 years
Field	Environmental Engineering
Approved Roles	
Team Leader	NO
Validator	NO

Verifier	NO		
Methodology Expert	NO		
Local expert	Yes (Turkey)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Reviewed by	Deepika Mahala	Date	28/06/2021
Approved by	Ashok Gautam	Date	01/07/2021

Competence Statement			
Name	Jahnabi Kalita		
Education	M.Sc. Environment Management		
Experience	8 months+		
Field	Climate Change		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	Yes		
Reviewed by	Deepika Mahala, Quality Manager	Date	08/09/2021
Approved by	Ashok Kumar Gautam, Technical Manager	Date	17/09/2021

Competence Statement	
Name	Kaviraj Singh
Country	India
Education	Ph.D. (Environmental Engineering), IIT Delhi Masters (Energy & Environmental), DAVV Indore
Experience	15 Years +
Field	Climate Change & Environment
Approved Roles	
Team Leader	YES
Validator	YES
Verifier	YES
Methodology Expert	AMS-I.D., AMS-II.D., ACM0006, AMS-I.A., AMS-I.C., AMS-II.B., AMS-III.H, ACM0002, ACM0001, AM0080, ACM0018
Local expert	YES (India)

Financial Expert	YES		
Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1, TA 13.2)		
Reviewed by	Shreya Garg	Date	12/02/2020
Approved by	Anshika Gupta	Date	12/02/2020

Competence Statement			
Name	Deepika Mahala		
Country	India		
Education	M. Sc. (Environment Management), GGSIP University B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU		
Experience	5 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2 & TA 3.1)		
Reviewed by	Shreya Garg	Date	15/04/2021
Approved by	Anshika Gupta	Date	15/04/2021

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	EKI Energy Services Limited	Revised approved PDD	version 11 dated 16/04/2018	Others
2.	EKI Energy Services Limited	Monitoring Report	Version 4.0, dated 14/08/2022	PD
3.	EKI Energy Services Limited	ER calculation sheet	Version 4.0 dated 14/08/2022	PD

4.	The Standard Foundation	Gold	GS Passport	version 0.3 dated 24/05/2014	PD
5.	The Standard Foundation	Gold	Transition Annex	Version 2.0	PD
6.	UNFCCC		ACM0018 "Flaring or use of landfill gas"	Version 18.0	Others
7.	The Standard Foundation	Gold	GS4GG MR Template	Version 1.1 Dated June, 2017	Others
8.	UNFCCC		CDM Validation and Verification Standard for PA	Version 3.0	Others
9.	UNFCCC		CDM Project standard for PA	Version 3.0	Others
10.	UNFCCC		Standard for Sampling and surveys for CDM project activities and programmes of activities	Version 9.0	Others
11.	The Standard Foundation	Gold	GS4GG Principles and Requirements	Version 1.2	Others
12.	The Standard Foundation	Gold	GS4GG GHG Emissions Reduction & Sequestration	Version 1.2	Others
13.	The Standard Foundation	Gold	Renewable Service activity requirements	Version 1.4	Others
14.	The Standard Foundation	Gold	Deviation Requirements and Approval Procedures	Version 1.1	Others
15.	ESPL		LE Checklist	Dated 01/11/2021	Others
16.	The Standard Foundation	Gold	GS4GG Interim Measures	Version 5.0, dated 21/12/2021	Others
17.	The Standard Foundation	Gold	Site Visit and Remote Audit Requirements and Procedures	version 1.0	Others
18.	Others		Travel restrictions in Turkey: https://travelbans.org/asia/turkey/	Last accessed on 29/10/2021	Others
19.	EKI Energy Services Limited		Deviation Request Form	Dated 18/10/2021	PD
20.	ESPL		Local Expert Site visit Photographs	Dated 01/11/2021	Others
21.	IPCC		IPCC Fifth Assessment Report, 2013 (AR5) https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf	-	PD
22.	EKI Energy Services Limited		Blower Technical Brochure and Blower Label	-	PD
23.	UNFCCC		Tool to determine the mass flow of a greenhouse gas in a gaseous stream	version 03.0	Others

24.	UNFCC	Emissions from solid disposal sites	version 08	Others
25.	UNFCC	Tool to calculate the emission factor for an electricity system	version 05.0	Others
26.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	http://mevzuat.basbakanlik.gov.tr	-	PD
27.	EPIAŞ	Electricity sales invoices	-	PD
28.	UNFCC	Tool to calculate baseline, project and/or leakage emissions from electricity consumption	version 02.0	Others
29.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	Flow meter records	-	PD
30.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	Turkish Greenhouse Gas Inventory and electricity generation values of project: https://webdosya.csb.gov.tr/db/iklim/icerikler/sera_gazi_em-syon-raporu-20200506141834.pdf	-	PD
31.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	"Estimating Landfill Greenhouse Gas Emissions from Measured Ambient Methane Concentrations and Dispersion Modeling", Figueroa, Cooper, and Mackie, Link: http://cee.ucf.edu/odormodeling/publications/Final_Paper_-_Figueroa_et_al_-_AWMA_2008.pdf	-	PD
32.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	Gas Recovery and Utilization From Municipal Solid Waste Landfills", Todd Potas. Link: http://www.anl.gov/PCS/acsfuel/preprint%20archive/Files/38_3_CHICAGO_08-93_0895.pdf	-	PD
33.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	https://www.enerjiportali.com/tuik-2018-termik-santral-su-atiksu-ve-atik-istatistiklerini-yayimladi/	-	PD
34.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	https://www.epias.com.tr/wp-content/uploads/2019/06/EPIAS_Annual_Electricity_Marker_Report_2018.pdf	-	PD
35.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	declaration of Gaziantep Metropolitan Municipality	-	PD
36.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	Solid waste characterization reports	-	PD
37.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	waste acceptance list	-	PD
38.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	Employment and Training records	-	PD
39.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	Employee contracts	-	PD

40.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	https://www.botas.gov.tr/uploads/default/attachment_data/datas/500881/temmuz_2021_tarifesi_30062021.pdf		PD
41.	IPCC	IPCC 2006 Guidelines for National Greenhouse Gas Inventories: https://www.ipcc-nggip.iges.or.jp/support/Primer_2006GLs.pdf	Last accessed on 10/05/2022	Others
42.	CEV Enerji Üretim San. ve Tic. Ltd. Şti.	Photographs of safety materials built in the project site		PD
43.	The Gold Standard Foundation	Assessment Approach for Reporting Higher Ex-post Emission Reductions	Version 1.0, Dated 04/07/2022	Others

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

TABLE 1. REMAINING FAR FROM VALIDATION AND/OR PREVIOUS VERIFICATION

FAR ID	Section no.	Date : DD/MM/YYYY
Description of FAR		
Project participant response		Date : DD/MM/YYYY
Documentation provided by project participant		
DOE assessment		Date: DD/MM/YYYY

There is no finding from previous verification report

TABLE 2. CL FROM THIS VERIFICATION

CL ID	01	Section no.	Date :21/12/2021
Description of CL			
PD is requested to provide the following documents- a) Transition Annex b) Local Stakeholder Consultation Report c) Calibration certificate of flow meter and gas analyser d) "Regulation on Measurement and Measuring Tools" document e) Previous Verification report			
Project participant response			Date : 27/02/2022
The following documents has been submitted as requested by the VVB: 1. Transition Annex 2. The local stakeholder consultation outcomes has been described in the Section E of the registered PDD 3. Calibration certificate of the flow meter and gas analyzer has been submitted to the Verification team as requested. 4. Regulation on Measurement and Measuring tools has been submitted to the VVB as requested. 5. No verification had been conducted for this project in past and hence the previous verification report is not available.			
Documentation provided by project participant			

1. Transition Annex 2. Stakeholder consultation outcomes 3. Calibration certificate of Flow meter and gas analyzer 4. Regulation on measurement and measuring tools	
DOE assessment	Date: 14/03/2021
1. Transition Annex has not been provided to the VVB. OPEN. 2. PD is requested to provide the latest updated PDD, version 11. OPEN. 3. The VVB is yet to receive the calibration certificate for electricity meters (Serial No.s- 50002081 and 65000306). OPEN. 4. Regulation on Measurement and Measuring tools have been provided to the VVB and was found to be appropriate. Closed. 5. As per as KPI stated in page no. 2 of the revised MR, version 2, dated 15/03/2022, the current monitoring period (01/11/2018 to 31/10/2021) is 2nd. Kindly clarify your response. OPEN.	
Project participant response	Date : 03/04/2021
1. Transition Annex is provided in DOE Review No.3 folder. 2. The latest updated PDD, version 11 is provided in DOE Review No.3 folder. 3. Calibration certificates for electricity meters are provided. 5. The monitoring period during the present verification is the second monitoring period being the first monitoring period of the project activity was from 01/11/2014 to 19/01/2017. The previous verification report is also submitted as an evidence to support the statement.	
Documentation provided by project participant	
1. T-V1.1-Transition-GS 745 Gaziantep_Trackchange_V02 2. Gaziantep LFG to Energy Project PDD v11 wtc 16042018 3. Main Meter - 50002081 - Calibration Report and Spare Meter - 65000306 - Calibration Report 5. GS_VER_REP_Gaziantep_Landfill_16TQ20MD_Rev_1.2Aa_06092017	
DOE assessment	Date: 07/04/2022
All the documents have been provided by the PD. Thus the CL stands closed.	

CL ID	02	Section no.	E.6.1	Date : 21/12/2021
Description of CL				
The value applied For the ex-ante parameter n_{PJ} is 40%. Therefore, PD is requested to provide the specifications of the LFG capture system installed in the project activity.				
Project participant response				Date : 27/02/2022
The PD has submitted the specifications of LFG capture system transparently in the MR as requested.				
Documentation provided by project participant				
Technical specifications of the project activity				
DOE assessment				Date: 14/03/2021
The supporting evidence, 2nd Feasibility Study of Gaziantep LFG project provided couldn't substantiate the value of the parameter, n_{PJ} . Also the technical specifications of the LFG capture system was not provided to the VVB. Please justify. OPEN.				
Project participant response				Date : 03/04/2022
As it is indicated in the submitted PDD version 11, "The efficiency factor is based on the observations on actual performance of the power plant." Therefore, there is not any exact specification that indicates the efficiency of capture system directly. However, the equipment brochure of blower (gas vacuum pump that captures the landfill gas from the landfill site) is provided along with the label of the equipment which indicates the serial number and other specifications.				
Documentation provided by project participant				
Blower Technical Brochure and Blower Label				
DOE assessment				Date: 07/04/2022
The value has been confirmed from the documentation provided by the PD. Closed.				

CL ID	03	Section no.	E.9	Date : 21/12/2021
Description of CL				
During the interview with Mustafa Mayda, villager from Akbulut Village, conducted by the Local Expert on 01/11/2021, the complaint of the villagers regarding the ponds that collect leachates from the landfill was bought up. PD is requested to address the grievance and provide subsequent evidence to the VVB about the same.				
Project participant response				Date : 27/02/2022

The leachate water that ponds collect is not under CEV Enerji's responsibility which is stated in the Technical Terms of Reference of Gaziantep LFG power plant. The Technical Terms of Reference is further submitted to the VVB as a supporting evidence for the same.	
Documentation provided by project participant	
<i>Technical terms of reference</i>	
DOE assessment	Date: 14/03/2021
The PD is therefore requested to explain the compliance with the monitoring procedures of the parameter, Leachate management as per as the registered PDD. OPEN.	
Project participant response	Date : 03/04/2022
<i>As per the latest Passport version 6, it is indicated that "Leachate management is officially not a responsibility of the Project, however in practice it has assumed some of the leachate related tasks until a leachate treatment system becomes operational on site. The Project owner has no control over the leachate related actions the Municipality takes, but it will try to ensure that leachate is collected, stored and transported safely, as much as it can."</i> <i>Within the monitoring period, the leachate water from the landfill site is collected to a lagoon and the leachate water is sent to a wastewater treatment plant using reverse osmosis system. The wastewater treatment plant is operated by two companies within the monitoring period: Pwt and Çetom. The declaration is taken from Gaziantep Municipality is shared. The responsibility of leachate water treatment is on Gaziantep Municipality therefore the declaration is taken from Municipality to justify the responsibility of the local municipality . The terms of reference document is shared which indicates the responsibility of leachate treatment is on Gaziantep Municipality as "Leachate Management-Municipality".</i>	
Documentation provided by project participant	
<i>GaziantepLFG-Passport-v6-20130626-final Municipality leachate treatment declaration Leachate Management-Municipality</i>	
DOE assessment	Date: 07/04/2022
The clarification provided by the PD is deemed valid. Closed.	

CL ID	04	Section No.	E.4.1	Date : 14/03/2021
Description of FAR				
The PD is requested to provide an update on the Deviation Request, with the reference no., SC – 43 as the deviation request was not approved by GS.				
Project participant response				Date : 03/04/2022
Due to a gap identified in between subsequent verifications, the project developer sought deviation from GS, which allowed to consider the verification period to be three years back from the present site visit date and thus the project developer considered the present monitoring period accordingly. Also as per the clause of deviation request the project developer through appropriate means indicated this transparently in the monitoring report that there had been no gap in terms of SDG impact monitoring for the gap period, however no claims are being made for the period where gap had been identified and on a conservative note the SDG benefits for the aforementioned period has been considered to be zero. Further the same has been included as a temporary deviation in the MR Version 03 section B.2.1 transparently.				
Documentation provided by project participant				
<i>MR Version 02</i>				
DOE assessment				Date: 07/04/2022
The PD has adopted conversative approach which was found to be appropriate. Closed.				

CL ID	05	Section No.	E.6.1	Date : 27/04/2022
Description of FAR				
PD is requested to address following issues in the ER sheet: In the "ER Calculation" worksheet, cell D9, the unit of GWP is taken as tCH₄/tCO₂. Kindly provide the significance of the unit.				
Project participant response				Date : DD/MM/YYYY
The unit of GWP of methane is updated as tCO₂/tCH₄.				
Documentation provided by project participant				
<i>ER GS745_Gaziantep-V04</i>				
DOE assessment				Date: 02/05/2022
The unit was found to be inline with the registered PDD and Transition Annex. Hence CL#06 stands closed.				

TABLE 3. CAR FROM THIS VERIFICATION

CAR ID	01	Section no.		Date	: 21/12/21
Description of CAR					
In the Monitoring Report, version 01 dated 22/10/2021, provided by the PD the following inconsistencies were reported-					
a) The ER values do not correspond to the values reported in the "ER calculation" tab (Cell O12 and M21) on the Emission Reduction calculation sheet. PD is requested to revise the value throughout the MR.					
b) Amount of renewable energy generated is inconsistent with the "Electricity Generation" tab (Cell K40) of the ER sheet. PD is requested to revise the value throughout the MR.					
c) The section nos are inconsistent with the GS4GG Monitoring report template form, version 1.1.					
Project participant response					Date : 27/02/2022
a. The MR has been revised as per the actual ER Sheet submitted and the values are made consistent as per the comment raised by the VVB					
b. The MR has been revised as per the actual ER Sheet submitted and the values are made consistent as per the comment raised by the VVB					
c. The MR has been revised as per GS4GG Monitoring report template form, version 1.1.					
Documentation provided by project participant					
MR Version 02					
ER Sheet Version 02					
DOE assessment					Date: 14/03/2021
a) The revised has been checked by the VVB and the ER values are found to be consistent throughout the MR in accordance with the updated ER Sheet.					
b) The amount of renewable energy generated has been found consistent throughout the revised MR.					
c) The revised MR was found to be inline with the GS4GG Monitoring report template form, version 1.1.					
Therefore CAR #01 is closed.					

CAR ID	02	Section no.	E.6.2	Date	: 21/12/21
Description of CAR					
PD is requested to update the SDG Indicators of the following parameters in the MR version 01, dated 22/10/2021 in accordance to the Sustainable Development Goals published by UNDP-					
1. SO ₂ emission					
1. NO _x emission					
2. Reduction of Volatile Organic Compounds					
3. Reduction of odor					
4. Reduction of discharged cooling water in the baseline					
5. H ₂ S emission					
6. Leachate management					
7. Hazardous waste processing					
Project participant response					Date : 27/02/2022
The project developer has updated the SDG Indicators in MR Version 02 submitted to the VVB and included the above parameters adequately.					
Documentation provided by project participant					
MR Version 02					
DOE assessment					Date: 14/03/2021
The revised MR, version 2 has updated the SDG indicators of the parameters. Therefore CAR #02 is closed.					

CAR ID	03	Section no.	E.6.1	Date	: 21/12/21
Description of CAR					
Registered GS PDD version 9, dated 11.12.2017 states TDL to be a monitored parameter. However MR version 1, dated 22/10/2021 includes it under ex-ante parameters. Please justify.					
Project participant response					Date : 27/02/2022
TDL parameter is transferred to monitoring parameter section as requested by the VVB.					
Documentation provided by project participant					
MR Version 02					

DOE assessment	Date: 14/03/2021
The parameter, TDL has been now recorded under monitored parameters in the revised MR, version 2 and thus was found to be inline with the registered PDD. CAR#03 is closed.	

CAR ID	04	Section No.	E.7	Date : 21/12/2021
Description of CAR				
- The following link in the cell C7 of EF Calculation tab of the ER Calculation Sheet is not functional- (https://enerji.enerji.gov.tr/Media/Dizin/BHIM/tr/Duyurular//Bilgi_Formu_Web_Sitesi_2019_202110071443.pdf). Kindly revise. - The equation used in cell E4 of ER Calculation tab of the ER Sheet for calculating $F_{CH_4,PJ,y}$ is not in compliance with the applied methodology ACM001, version 18. PD is also requested to justify the use of two equation for calculating $F_{CH_4,PJ,y}$, Methane captured and destroyed/gainfully used by the project activity in the year y (tCH₄).				
Project participant response				Date : 27/02/2022
- Additional link is included in the sheet. - ER sheet is revised as per ACM001, Version 18.				
Documentation provided by project participant				
ER Sheet version 02				
DOE assessment				Date: 14/03/2021
1. The additional link is still not accessible to the VVB. Please clarify. OPEN				
Project participant response				Date : 03/04/2022
The EF factor is directly taken as 0.484 from the latest registered PDD, version 11.				
Documentation provided by project participant				
Gaziantep LFG to Energy Project PDD v11 wtc 16042018				
DOE assessment				Date: 02/05/2022
The value of the EF factor was found to be in line with the revised PDD. Closed.				

CAR ID	05	Section No.	E.6.1	Date : 14/03/2021
Description of CAR				
As per as para 2.1.3 of APPLICABILITY OF GLOBAL WARMING POTENTIAL FOR GOLD STANDARD FOR THE GLOBAL GOALS PROJECTS, Version 1.1 "All monitoring, verifications and requests for performance certification of Certified products and/or Impact Statements for the period starting 01 January 2021 shall use the AR5 GWP values for calculating emission reductions and removals accrued by GS4GG projects and PoAs. This requirement is applicable to all emission reductions and removals accrued by GS4GG projects and PoAs irrespective of the Gold Standard version and project cycle stage." PD is requested to justify the compliance with Global Warming Potential (GWP) value of methane for the period- 01/01/2021-31/10/2021.				
Project participant response				Date : 03/04/2022
The Global Warming Potential (GWP) value of methane is updated as 28 according to the IPCC Fifth Assessment Report, 2014 (AR5).				
Documentation provided by project participant				
GS745-Gaziantep_MR_V03 Emission Reduction sheet				
DOE assessment				Date: 07/04/2022
The value has been made updated and was found consistent throughout the MR and ER sheet. Closed.				

CAR ID	06	Section No.	E.6.1	Date : 27/04/2022
Description of CAR				
OX-oxidation factor mentioned in registered PDD is not mentioned as ex-ante parameter in the MR version 3. Please clarify the inconsistency.				
Project participant response				Date : 09/05/2022
OX-oxidation factor is updated as per mentioned in registered PDD version 11.				
Documentation provided by project participant				
GS745-Gaziantep_MR_V04				
DOE assessment				Date: 20/05/2022
The parameter has been included in the revised MR and was found to be in line with registered GS PDD version 11. Therefore the CAR stands closed.				

TABLE 4. FAR FROM THIS VERIFICATION

FAR ID	01	Section No.	E.7.6	Date : 25/08/2022
Description of FAR				
The verifying VVB for all the subsequent monitoring periods throughout the crediting period shall assess the cause if ex-post emission reductions for the monitoring period is reported higher than the amount of emission reductions estimated as per as the registered PDD. Thus, as per as para 2.1.5 of Rule Clarification “Assessment Approach for Reporting Higher Ex-post Emission Reductions”, version 1.0, if the project activity reports higher emission reduction the VVB shall request project developer to perform a root cause analysis of the variation to determine whether the variation is systematic and if concluded yes, then assess its impact on investment analysis.				
Project participant response				Date : DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				