
VERIFICATION AND CERTIFICATION REPORT

Samsun Avdan Enerji Üretim ve Tic. A.Ş.

Samsun Landfill Gas to Energy

Project, Turkey

IN

Turkey

MONITORING PERIOD:

From 16/04/2016 to 08/02/2018 (both days included)

Organizational Unit:	Re Carbon Ltd. Carbon Department		
Project Title:	Samsun Landfill Gas to Energy Project, Turkey		
Project Number:	Client:	Current MR Version:	
543	Samsun Avdan Enerji Üretim ve Tic. A.Ş.	08	
Date of First Issue:	Date of Current Version:	Version Number:	Number of Pages:
31/01/2020	22/06/2020	02	97
Verification Number:	Registration Number:	Monitoring Period:	
03	GS 935	From: 16/04/2016	To: 08/02/2018
Summary:			
Host Country: Turkey			
Project is Reviewed Against:			
☒ Kyoto Protocol ☒ UNFCCC CDM rules and regulations and associated documents ☒ Gold Standard rules and regulations ☐ Other (Please Specify)			
Methodology: ACM0001 Version: 11 & ACM0002 Version: 12.1			
Verified Emissions Reductions: 288,074 tCO ₂ e			
Project Size: ☒ Large Scale ☐ Small Scale ☐ Micro Scale			
Project Participants:	Samsun Avdan Enerji Üretim ve Tic. A.Ş.		
Verification Stages:			
☒ Desk Review ☒ Site Visit ☒ Follow-up Interviews ☒ Resolution of Outstanding Issues			
Verification Findings:			
During the verification 18 Corrective Action Requests, 02 Clarification Requests were issued, all of which were closed out before the issuance of this verification report. No Forward Action Requests were issued during the verification. In summary, it is Re Carbon Ltd.'s opinion that the project activity "Samsun Landfill Gas to Energy Project, Turkey" in Turkey, is in compliance with the monitoring plan described in the registered PDD, version 04 dated 13/04/2012. The GHG emission reductions are calculated correctly as per the applied methodology and the emission reductions given in the monitoring report version 08 dated 15/06/2020 are fairly stated.			
Verification Team Leader:	Sandeep Kanda	Indexing Terms:	
Verification Team Members:	Anıl Söyler	☒ No distribution without permission of the client or responsible organizational unit ☐ Limited Distribution ☐ Unrestricted Distribution	
Approved By (Technical Reviewer):	Name:	Signature:	
	Sukanta Das		

Abbreviations

CAR	: Corrective Action Request
CDM	: Clean Development Mechanism
CEF	: Carbon Emission Factor
CER	: Certified Emission Reduction(s)
CL	: Clarification request
CO₂	: Carbon dioxide
CO₂e	: Carbon dioxide equivalent
DNA	: Designated National Authority
DOE	: Designated Operational Entity
DR	: Document Review
EF	: Emission Factor
ER	: Emission Reductions
ERPA	: Emission Reduction Purchase Agreement
FAR	: Forward Action Request
GHG	: Greenhouse gas(es)
GS	: Gold Standard
GWP	: Global Warming Potential
I	: Interview
IPCC	: Intergovernmental Panel on Climate Change
kWh	: Kilo Watt Hour
MP	: Monitoring Plan
MoV	: Means of Verification
MW	: Mega Watt
MWh	: Mega Watt Hour
NGO	: Non-governmental Organisation
ODA	: Official Development Assistance
PDD	: Project Design Document
PP	: Project Participant(s)
tCO₂e	: Tonnes of CO ₂ equivalents
UNFCCC	: United Nations Framework Convention on Climate Change

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1. EXECUTIVE SUMMARY– VERIFICATION AND CERTIFICATION OPINION

Re Carbon Ltd. has performed the 3rd periodic verification of the “Samsun Landfill Gas to Energy Project, Turkey” which is a Gold Standard project with the registry reference number “GS 935” for the period between 16/04/2016 and 08/02/2018. The scope of the activities covers the verification and certification of GHG emissions reductions reported in Monitoring Report Version 08 dated 15/06/2020 of “Samsun Landfill Gas to Energy Project, Turkey”.

Re Carbon Ltd. hereby confirms that the project activity “Samsun Landfill Gas to Energy Project, Turkey” in Turkey, is implemented in accordance with the validated and registered PDD version 04 dated 13/04/2012. The monitoring system is in place and the emission reductions are calculated without material misstatements as per the applied approved methodologies, which are ACM0001 Version: 11 & ACM0002 Version: 12.1.

Re Carbon Ltd. confirms the following based on the results of document review and on-site assessment:

The implementation of the project has resulted in 288,074 tCO₂e during the monitoring period 16/04/2016 and 08/02/2018.

2. INTRODUCTION

2.1. Objective

Re Carbon Ltd. has been appointed by “Samsun Avdan Enerji Üretim ve Tic. A.Ş.” to perform the 3rd periodic verification of the “Samsun Landfill Gas to Energy Project, Turkey” with the contract dated 11/04/2019. The objective of this verification activity is to assess, with objective evidence:

- if the monitoring report dated “15/06/2020” conforms with the requirements of the monitoring plan of the registered PDD and the approved methodology
- if the project activity conforms with the monitoring report and the registered PDD, and
- if the data reported in the monitoring report are complete and transparent.

2.2. Scope

The scope of the verification is the independent and objective review of the monitored GHG reductions. The verification activity is based on the validated and registered PDD version 04 dated 13/04/2012.

The project activity and the monitoring report are assessed against the requirements of the Article 12 of the Kyoto Protocol, CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, ACM0001 Version: 11 & ACM0002 Version: 12.1, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other related rules, according to the guidance given in the CDM Validation and Verification Standard version 02, CDM Project Standard version 02, CDM Project Cycle Procedure version 02, Gold Standard (GS) Toolkit version 2.1 and other relevant GS requirements.

The only purpose of the verification and certification is its usage during the issuance process as part of the GS project cycle. Therefore, Re Carbon Ltd. can't be held liable by any party for decisions made or not made based on the verification and certification opinion, which will go beyond that purpose.

2.3. Description of the Project Activity

The project is a Landfill Gas (“LFG”) to Energy Project, developed by “Samsun Avdan Enerji Üretim ve Tic. A.Ş.”, located south-west of Samsun city centre. The project activity involves the collection and utilization of the LFG with an electricity component with a currently installed capacity 8.4 MWe.

The project was registered for collection and utilization of the LFG with an electricity component with an installed capacity starting with 1.2 MW and reaching 4.8 MW. The gas collection and preliminary flaring on site started on 09/02/2011 and installation of the first and second gas engines with official power generation started on 09/03/2012.

Subsequently, on 07/05/2014 and 24/03/2016 the Generation License of the Project was amended, and the permitted installed capacity was increased to 6.0 MW and then 8.4 MW. There has been capacity addition at the project site with addition of further new turbines, each having a capacity of 1.2 MW.

The commissioning of the engines has happened, as follows:

Date	Description	Included Capacity	Total Capacity
09/03/2012	1st and 2nd engine	2.4 MW	2.4 MW
27/09/2013	3rd engine	1.2 MW	3.6 MW
27/09/2014	4th and 5th engine	2.4 MW	6.0 MW
22/05/2018	6th and 7th engine	2.4 MW	8.4 MW

The Project is running with 7 Deutz make gas engines with a total capacity of 8.4 MW, with the generated electricity being delivered to the Turkish national grid as observed during on-site visit and also confirmed through the license.

The following capacities have been considered for claiming credits during this monitoring period, as approved by GS through design change on 02/05/2019:

Date	Included Capacity
16/04/2016 – 31/12/2016	2.4 MW
01/01/2017 – 02/05/2017	2.4 MW
03/05/2017 – 31/12/2017	6.0 MW
01/01/2018 – 08/02/2018	6.0 MW

The project was registered on 01/06/2011 and the first renewable crediting period started on 09/02/2011 and the end of the first crediting period is 08/02/2018.

2.4. Parties Involved

The host country is Turkey. The Project Participant is Samsun Avdan Enerji Üretim ve Tic. A.Ş. and is also responsible for the operation and monitoring of the parameters in line with the registered monitoring plan of the project activity.

2.5. Verification Period Covered

This is the 3rd verification period from 16/04/2016 and 08/02/2018 (both days included).

It is also to be noted that the monitoring period end date of the previous 2nd periodic verification was 31/08/2014. However, the monitoring period start date of this 3rd periodic verification is from 16/04/2016 as there has been delay of more than three years since the last verification site visit. Given that the verification site visit for this verification was executed on 16/04/2019, so the start date of the 3rd monitoring period has been determined as 16/04/2016.

3. METHODOLOGY

The verification of this GS project activity includes the following steps:

- Assessment of the conformity of the actual project activity and its operation with the registered PDD version 04 dated 13/04/2012
- A site visit was conducted on 16/04/2019 to assess that all physical features of the project activity proposed in the registered PDD are in place and that the project participants has operated the project activity as per the registered PDD.
- Assessment of the compliance of the monitoring plan with the monitoring methodology ACM0001 Version: 11 & ACM0002 Version: 12.1
- Assessment of the compliance of monitoring with the monitoring plan
- Assessment of data and calculation of greenhouse gas emission reductions
- Issuance of the verification report
- Independent technical review
- Approval of the verification report and request of issuance

The Verification Protocol is used for the assessment of each requirement during the execution of verification activities and is given in Annex-1 of this verification report.

The Verification Protocol consists of three tables:

- Table 1 (Monitoring Report and CDM verification requirements)
- Table 2 (Additional Gold Standard (GS) requirements) and
- Table 3 (Resolution of Corrective Action, Forward Action and Clarification Requests)

The usage description of Table-1 in Verification Protocol is explained in Table 3-1 below:

Table 3-1: Explanation about Table-1 in Verification Protocol

Question	Reference	MoV*	Findings, comments, references and document sources	Draft & Final Conclusion
The requirements related with the monitoring report and verification	Gives reference to the legislation or documents where the relevant requirement is found	Explains how conformance with question is investigated. Examples of means of verification are Document Review (DR), Interview (I) and Not Applicable (NA)	Is used to elaborate and discuss the question and/or conformance to the question by giving related references and document sources based on which the finding is issued or evidence is checked	Either acceptable based on the evidence provided (OK), non-compliance with the requirement (CAR), further clarification (CL) due to insufficient, unclear or not transparent information, forward action request (FAR) that needs to be solved during the next periodic verification

The usage description of Table-2 in Verification Protocol is explained in Table 3-2 below:

Table 3-2: Explanation about Table-2 in Verification Protocol

Question	Reference	MoV*	Findings, comments, references and document sources	Draft & Final Conclusion
The additional requirements related with Gold Standard	Gives reference to the legislation or documents where the relevant requirement is found	Explains how conformance with question is investigated. Examples of means of verification are Document Review (DR), Interview (I) and Not Applicable (NA)	Is used to elaborate and discuss the question and/or conformance to the question by giving related references and document sources based on which the finding is issued or evidence is checked	Either acceptable based on the evidence provided (OK), non-compliance with the requirement (CAR), further clarification (CL) due to insufficient, unclear or not transparent information, forward action request (FAR) that needs to be solved during the next periodic verification

The usage description of Table-3 in Verification Protocol is explained in Table 3-3 below:

Table 3-3: Explanation about Table-3 in Verification Protocol

Draft Report Clarifications, Forward Action and Corrective Action Requests by Verification Team	Ref. to Questions in Table-1 and Table-2	Summary of Project Participants' Response	Verification Team Conclusion
The all CL, FAR and CARs determined during the draft verification report should be listed here	Gives reference to the checklist questions in Table-1 of Verification Protocol	Is used to summarize the responses by project participants regarding the non-conformities	Is used to summarize the responses by verification and their conclusions

The Verification Protocol is fulfilled by the verification team in line with the descriptions above and all the CARs, CLs and FARs are listed in a transparent and clear manner.

3.1. Verification Team and ITR Selection

The appointment process of the verification team takes into account the technical area(s), sectoral scope(s), and relevant host country experience required amongst team members for the verification of the emission reductions achieved by the project activity in the relevant monitoring period for this verification. The relevant GS verification and previous ITR experiences are also assessed during the selection of the team members and Independent Technical Reviewer (ITR), respectively. The verification team and ITR are assigned to this verification activity on 05/04/2019 taking all the above factors into consideration and as a result of the contract review process.

The verification team and ITR details are given in Table 3-4 below:

Table 3-4: Verification team and ITR details

Name	Role	Host Country Experience	Scope Coverage	Technical Expertise	Involvement*
Sandeep Kanda	Team Leader	☒	☒	☒	DR, R
Anıl Söyler	Verifier	☒	☒	☒	A, SV, DR, R
Sukanta Das	ITR	☒	☒	☒	ITR

* Explanations for the abbreviations used for involvement types are as follows:

- A : Administrative
- DR : Desk Review
- SV : Site Visit
- R : Reporting
- ITR : Independent Technical Review

3.2. Desk Review of Documents

The basis for the verification activity is the monitoring report version 01, dated 24/01/2020 which was submitted to the verification team on the same day. This monitoring report was revised several times due to the issued CARs and CLs, version 08 dated 15/06/2020 being the final version. The monitoring report and the monitoring activities were assessed against the registered PDD, version 04 dated 13/04/2012, the methodologies ACM0001 Version: 11 & ACM0002 Version: 12.1, the relevant CDM rules and regulations, CDM Validation and Verification Standard version 02, Gold Standard Toolkit version 2.1, final validation report of Tuv-Rheinland, version 6, dated 23/07/2012 and the previous 2nd periodic verification report of TÜV SÜD, version 03, dated 04/03/2015.

The following actions were involved in the desk review:

- A review of the data and information presented to verify their completeness
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures
- 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

A list of all the documents that were reviewed can be found in Section 6 of this verification report.

3.3. On-Site Visits

As a part of the verification activities a site visit was performed to the project activity site, details of which can be seen in the below Table 3-5:

Table 3-5: Site visit details

Date	16/04/2019	
Location	Samsun	
Participant	Company Name	Role in the Organization / Role in the Site Visit
Erol İREN	Samsun Avdan Enerji Üretim ve Tic. A.Ş.	General Manager
Sinan BEKTAŞ	Samsun Avdan Enerji Üretim ve Tic. A.Ş.	Deputy General Manager
Selim YILMAZ	Samsun Avdan Enerji Üretim ve Tic. A.Ş.	Plant Manager
Adem SÖYLER	Samsun Avdan Enerji Üretim ve Tic. A.Ş.	Operator
Ayşe BALAMAN	Samsun Avdan Enerji Üretim ve Tic. A.Ş.	Cook
Hülya KAPLAN	Samsun Geri Dönüşüm A.Ş.	Worker (Local)
Selma BUĞRA	Samsun Geri Dönüşüm A.Ş.	Worker (Local)
Çağla Balcı ERİŞ	Rüzgar Danışmanlık Ltd.	Carbon Consultant
Anıl SÖYLER	Re Carbon Ltd.	Verifier
Fatma ZENGİN	Aşağı Avdan Village	Villager
Remzi KEMSEN	Aşağı Avdan Village	Villager
Kamuran GENÇ	Aşağı Avdan Village	Mukhtar (Village Head)
Points Verified	Source of Information	
Implementation and operation of the proposed GS project activity as per the registered PDD	Document review, site visit and interviews	
Review of information flows for generating, aggregating and reporting the monitoring parameters	Document review, site visit and interviews	
Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD	Interviews	
Cross-check between information provided in the monitoring report and data from other sources such as plant log books, inventories, purchase records or similar data sources	Document review and site visit	
Check of the monitoring equipment including calibration performance and	Document review, site visit and interviews	

observations of monitoring practices against the requirements of the PDD and the selected methodology	
Review of calculations and assumptions made in determining the GHG data and emission reductions	Document review
Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters	Document review and interviews

3.4. Reporting of Findings via the Verification Protocol

During the verification period, a Verification Protocol which is attached in Annex-1 to this verification report was used to submit the findings to the project participants.

In line with the CDM Validation and Verification Standard the team reports the non-conformities in the forms of Corrective Action Requests (CARs), Clarification Requests (CLs) and Forward Action Requests (FARs). When and for which type of non-conformities CARs, CLs and FARs are issued are explained below:

- The Verification team raises a **CAR** if one of the following occurs:
 - Non-conformities with the monitoring plan or methodology are found in the monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
 - Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
 - Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.
- The Verification team raises a **CL** if information is insufficient or not transparent not clear enough to determine whether the applicable CDM requirements have been met.
- The Verification team raises a **FAR** during verification for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

According to these principles total of 18 CARs and 02 CLs were issued all of which are listed in the Verification Protocol. No Forward Action Requests were issued during the verification.

3.5. Follow-Up Interviews

During the verification period follow-up interviews were realized by the verification team to further analyze the correctness and accurateness of the information provided. A list of persons interviewed is given in Section 5 of this Verification Report.

3.6. Resolution of Outstanding Issues

During the verification activities CARs and CLs were issued to clarify the issues that are not transparent enough to reach a positive verification opinion and to approve the achieved GHG emission reductions.

If there are any findings issued as Forward Action Requests (FARs) indicated in previous validation and/or verification reports were discussed during this phase.

Issues issued in the FARs from previous reports, and CLs and CARs from this verification activity, were resolved, during the written and oral communications between the Project Participant and Re Carbon Ltd. Verification Team members. These communications are backed up with objective evidences that were sent to the verification team as a proof of compliance. Concerns issued in the desk review, the on-site audit assessments and the follow up interviews and the responses provided for the issued concerns are documented in Annex 1 (Verification Protocol) to guarantee the transparency of the verification process.

Table 3-6: Timeline of verification activities

Activity	Date
Desk review started	11/04/2019
On site assessment	16/04/2019
1 st Protocol submission to client	31/01/2020
Various rounds of review with client	31/01/2020 – 04/05/2020
Closure of all CARs and CLs	04/05/2020
Submission for Technical Review	11/05/2020
Submission for final approval	12/05/2020
Final documents submitted to client	13/05/2020
Revisions based on GS review	22/06/2020

Information or clarifications provided as a response to a CAR, CL or FAR could also lead to a new request. This can also be seen transparently in the Verification Protocol provided in Annex 1 of this Verification Report.

3.7. Internal Quality Control

As a final step of verification, the final documentation including the verification report and its annexes have to undergo an internal quality control by the Re Carbon Ltd. This quality control is also referred to as Independent Technical Review process.

The Independent Technical Review is performed by another Team Leader who hasn't involved in the verification activities of this project activity. When the Team Leader finalizes the Verification Report, the report is sent to Independent Technical Reviewer, at this stage not only the report but all the supporting documents like emission factor calculations, additionality justifications, relevant excel sheets etc. are reviewed.

Further CLs and CARs can be issued by the Independent Technical Reviewer during this review, to cover all the points that may need further clarification.

After all the CLs and CARs are closed, the verification report is reviewed and approved by the Team Leader, ITR and the Certification Manager/General Manager, and the request of issuance is submitted to the Gold Standard Organization in line with the positive verification opinion and along with the all relevant documents.

4. VERIFICATION FINDINGS

4.1. Remaining Issues From Previous Validation or Verifications

The previous 2nd periodic verification report does not present any FAR. However, there was one FAR raised by GS during the 3-week issuance review period, as follows:

“Forward Action Request #1: The verifying DOE shall confirm that the temperature of the gaseous stream is in compliance with the requirements of dry basis used to calculate the mass flow of GHG in the gaseous stream.”

The aspect of compliance with the requirements of dry basis used to calculate the mass flow of GHG in the gaseous stream has been checked by the DOE. Following Option D from the "Tool to determine the mass flow of a greenhouse gas in a gaseous stream", the demonstration of the temperature of the gaseous stream (Tt) is less than 60°C (333.15 K) at the flow measurement point has been checked and confirmed. The check of temperature data indicates compliance with the requirement. The LFG temperature is found to be below 60°C during the monitoring period. Therefore, this FAR has been closed.

4.2. Compliance of the Project Implementation with the Registered PDD

The project is fully implemented according to the description presented in the registered PDD.

Based on the site visit it is confirmed that the project has installed a new LFG capture system in the Samsun landfill site where no LFG extraction or utilization was happening. The project utilizes the landfill gas originating from the Samsun landfill and generates electricity from it through gas engines. During the on-site visit, the project was found operational with a total of 7 Deutz make gas engines of capacity 1.2 MW each and thereby total installed capacity of 8.4 MW. The activity generates electricity and delivers it to the Turkish national grid. The project also has a high temperature enclosed flare system manufactured by Conveco.

The project was registered with an electricity component of 4.8 MW. However, the Generation License of the Project was amended, and the permitted installed capacity was increased to 6.0 MW and then 8.4 MW. The design change for capacity addition has been approved by GS on 02/05/2019 and therefore it too has been considered accordingly for claiming credits during this monitoring period.

Based on the site visit, PMUM and TEIAS records, the verifier confirms, that all physical features of the project activity including data collecting systems and storage have been implemented in accordance with the registered PDD. The project activity is completely operational and the same has been confirmed based on official records.

According to the registered PDD, the estimated annual average emission reduction is 58,669 tCO₂e and the estimated value for this monitoring is 203,721 tCO₂e. Whereas, the actual amount of emission reduction achieved during the current monitoring period corresponding to 664 days is 288,074 tCO₂e. The actual amount of emission reduction for the current monitoring period is significantly higher than the estimated emission reduction amount. The difference is stated to be on account of better collection of gas and utilization in the engines rather than flaring. Besides that, the gas projection from the first order decay model as per the methodology deviating from the actuals is indicated. The reasoning is acceptable to the DOE.

4.3. Compliance of the Monitoring Plan with the Monitoring Methodology

The monitoring plan is in accordance with the approved methodology, ACM0001 Version: 11 & ACM0002 Version: 12.1, applied by the project activity.

In line with the relevant methodology, the MR reports on all parameters including the management of solid waste disposal site (SWDS), operation of the equipment that consumes the LFG, volumetric flow of the gaseous stream (to the electricity generating units), volumetric fraction of CH₄ on a dry basis, temperature of the gaseous stream, amount of net electricity generated using LFG by the project activity. The amount of LFG captured and gainfully destroyed is monitored based on monitoring the methane flow and concentration apart from adjusting it for the biogas flow into the system. Besides that, the temperature of the gas is monitored to ensure conditions below 60°C and the project emissions are based on the monitored value of fossil fuel combustion.

The amount of electricity fed into the grid by the project is monitored continuously by redundant metering devices which provides the data for the monthly invoicing to TEİAŞ.

4.4. Compliance of the Monitoring with the Registered Monitoring Plan

The site visit and review of national regulations confirmed that there are no changes in the landfill design to increase methane emissions, thus the management of SWDSs remains unchanged and does not alter the baseline emissions calculations.

The total volumetric flow of landfill gas to the gas engines and flares in Nm³/hr is measured by Flow-meter-1, Orifice Plate Technova HT, accuracy class 2%, with serial no. AAL3824F and AAL3829F, respectively. The volumetric flow of biogas in Nm³/hr is measured by Flow-meter-3, Orifice Plate Technova HT, accuracy class 2%, with serial no. AGF1583F.

Operational hours of each gas engines are monitored continuously. Records of the same were verified during the site visit.

The methane fraction in the landfill gas is monitored by a Pronova SSM-6000-LT gas analyzer having serial number 8002000-0-1435 at the project site.

The thermocouple installed on site was found K type however PDD requires thermocouple to be installed of N type. The K type has the same temperature range.

All these parameters have been monitored continuously during the current monitoring period. The records of the same could be verified during site visit.

The net electricity is measured continuously by a main meter at the grid interface and recorded monthly. There is also a backup control meter. The meters used are in line with the regulatory requirements for electricity meters. The meters of accuracy class of 0.5s having serial number 65001340, MAKEL make and serial number 13000893 (after 04/10/2017) KÖHLER make for the main meter (before 04/10/2017) and serial number 436730, Elster A1500 make for the backup meter are used at the project site. Whereas, the KÖHLER make meter was replaced by MAKEL make meter on 04/10/2017.

The electricity meters have been controlled and maintained by the grid owner. The quantity of net electricity delivered to the grid has been calculated with the EPIAŞ (the financial settlement centre of TEİAŞ) records provided to the PP by TEİAŞ. All readings and billings are done via EPIAŞ system, which is the legal database of the ministry.

There are always internal reviews of the metered data, which is checked by different parties. SCADA system is available from which daily reports are taken. The data collected daily is saved in plant manager computer and backed up. Sample log books were checked during site visit and there were no differences in data.

4.5. Completeness of Monitoring

All parameters required by the methodology and Gold Standard are monitored. In line with the methodology, the only information to be monitored is the amount of net electricity exported to the grid by the project activity. The sustainable development indicators indicated in the registered Passport are:

- Air quality
- Water quality and quantity
- Soil condition
- Other pollutants
- Quality of employment
- Access to affordable and clean energy services
- Quantitative employment and income generation
- Balance of payments and investment
- Technology transfer and technological self-reliance

As there are no missing parameters, monitoring is complete.

4.6. Sustainability Monitoring

Sustainability measures are in line with Section G of the registered GS-Passport. For verification of sustainability parameters in the current monitoring period, on site visit observations and interviews with local stakeholders were used.

Compliance check of the parameters indicated in the sustainability monitoring plan of the GS-Passport has been carried out, as follows in Table 4-1 below:

Table 4-1: Sustainability monitoring parameters

SD Indicator	Chosen Parameter	Way of monitoring (When)	Assessment
Air quality	SO ₂ and NO _x emissions prevented	For each monitoring period based on net annual electricity generation and ex-ante fixed respective emission factors (Continuously)	The net electricity generation has been checked from the TEİAŞ meter records and the emission intensities of SO ₂ and NO _x emissions due to electricity generation are taken as: 5.31 kg/MWh and 1.65 kg/MWh respectively, as fixed ex-ante in the registered Passport. The calculations have been correctly performed presenting the SO ₂ and NO _x emission reductions corresponding to

SD Indicator	Chosen Parameter	Way of monitoring (When)	Assessment
			the monitoring period as 344.34 tSO ₂ and 107 tNO _x .
Water Quality and Quantity	Reduction of discharged cooling water in the baseline	For each monitoring period based on net annual electricity generation and ex-ante cooling water discharge intensity (Continuously)	The net electricity generation has been checked from the TEİAŞ meter records and the cooling water discharge intensity per MWh of generation is taken as: 23.5 m ³ /MWh, as fixed ex-ante in the registered Passport. The calculations have been correctly performed presenting the avoided wastewater (cooling water) amount corresponding to the monitoring period as 1,523,913 m ³ .
	Leachate quality	By assessment of publicly available documents about leachate management and/or groundwater quality (Continuously)	The signed letter dated as 05/03/2014 by Samsun Metropolitan Municipality about the leachate water has been provided to VVB and it has been stated in the letter that there hadn't been observed significant change on the leachate water parameters according to the conducted analysis by them. There hasn't been any complaint by the interviewed local stakeholders regarding the leachate management during the verification site visit.
Soil condition	Waste terracing	Visual inspection (During preparation of monitoring report)	During the site visit, based on visual inspection and interviews with the stakeholders, there hasn't been observed erosion and land slide risk during the verification site visit. There hasn't been any complaint by the interviewed local stakeholders regarding waste management practices, waste terracing and capping layers during the verification site visit.
	Hazardous waste processing	Visual inspection and interviews with stakeholders (During preparation of monitoring report)	During the site visit, based on visual inspection and interviews with the stakeholders, it is observed that no hazardous waste is accepted or processed at the landfill site. There hasn't been any complaint by the interviewed local stakeholders regarding waste management practices during the

SD Indicator	Chosen Parameter	Way of monitoring (When)	Assessment																
			verification site visit.																
Other pollutants	Reduction of volatile organic compounds	Measuring the amount of methane destroyed through combustion or flaring (Continuously)	Based on the amount of methane destroyed and ex-ante constant for VOC fraction (2%) and VOC destruction percentage (98%), the non-methane VOCs destroyed through combustion or flaring has been checked based on gas records as 516,085 m ³ .																
Quality of Employment	Safe and healthy working conditions	Assessment of working conditions by checking safety material, tasks of the personnel etc. (Continuously)	As per the training records and certificates checked, the trainings were on basic HSE, occupational diseases, hygiene and manual lifting dated as 26/10/2016, 09/05/2017, 08/08/2017, 14/12/2017 and 27/04/2018 all 12 staff had been given the trainings. The safety equipment and general safety precautions were also in place in line with the site visit observations.																
Access to affordable and clean energy services	Avoided fossil fuel consumption	For each monitoring period based on net annual electricity generation and ex-ante fixed respective fuel consumption intensity factors (Monthly)	The net electricity generation has been checked from the TEİAŞ records and the fuel consumption intensities taken as:<table><tr><td>Fuel type</td><td>Intensity factor (t/GWh or m³/GWh)</td></tr><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>493</td></tr><tr><td>LPG</td><td>0</td></tr><tr><td>Naptha</td><td>243</td></tr><tr><td>Natural Gas</td><td>218</td></tr></table> The values are as fixed ex-ante in the registered Passport. The calculations have been correctly performed presenting the avoided fuel consumption corresponding to the monitoring period with the aforesaid factors.	Fuel type	Intensity factor (t/GWh or m ³ /GWh)	Coal	395	Lignite	1,585	Fuel Oil	301	Diesel Oil	493	LPG	0	Naptha	243	Natural Gas	218
Fuel type	Intensity factor (t/GWh or m ³ /GWh)																		
Coal	395																		
Lignite	1,585																		
Fuel Oil	301																		
Diesel Oil	493																		
LPG	0																		
Naptha	243																		
Natural Gas	218																		
Quantitative employment	Number of local	By checking the social security	As per the social security records checked and the interviews on-site, 12																

SD Indicator	Chosen Parameter	Way of monitoring (When)	Assessment
and income generation	employees of the project	and residence records of the personnel (Continuously)	employees including the plant operation manager have been employed and all of them are local employees.
Balance of payments and investment	Value of the imported natural gas avoided	Monitoring the net electricity generated by the project and ex-ante fixed NG price (Monthly)	The monitoring data presented for avoided fuel import are in line with the net electricity generation during the current monitoring period. The electricity generation values have been verified based on the meter readings and submitted records. During the 3 rd monitoring period the project has resulted in avoidance of around natural gas import worth about 1,171,866 USD.
Technology transfer and technological self-reliance	Know how transfer to local stakeholders	The visits, training sessions and know how contributions made by international experts (Continuously)	During the site visit, based on visual inspection and interviews with some employees, the employees had the knowledge transfer through the on the job trainings and experiences as a result of the project activity.

Therefore, based on site visit observations and provided documents, it can be confirmed that sustainability parameters are monitored in line with the registered Gold Standard Passport and Monitoring Plan.

4.7. Compliance with the Calibration Frequency Requirements for Measuring Instruments

The registered PDD and monitoring plan along with the applied methodology was referred to check the frequency of calibration of the monitoring equipment. The calibration records of monitoring equipment were submitted to the verification team and verified to confirm the validity of readings recorded from the meters.

The calibration of the meters checked during the current monitoring period is presented as follows in Table 4-2 below:

Table 4-2: Calibration of meters

Parameter Description	Meter	Serial Number	Calibration Frequency	Calibration Dates	Assessment
Volumetric flow of the gaseous stream to gas engines (LFG + Biogas)	FM1	AAL3824F	10 years	24/11/2010	Within limits, no delay in calibration
Volumetric flow of the gaseous stream to flare (LFG + Biogas)	FM2	AAL3829F	10 years	24/11/2010 10/05/2012	Within limits, no delay in calibration
Volumetric flow of the biogas stream to engine and flare (Biogas)	FM3	AGF1583F	10 years	04/05/2016	Within limits, no delay in calibration
Volumetric fraction of CH ₄	-	8002000-0-1435	Annually	11/04/2013; 10/09/2013	Within limits, no delay in calibration
Net amount of electricity generated using LFG including quantity of electricity consumed by the project activity		65001340 (main), 13000893 (main) 436730 (back-up)	10 years	07/09/2016; 04/10/2017; 18/08/2010	Meters within calibration/test validity

For the electricity generation and consumption, calibrated electricity meters were installed as per the regulations. Re-calibration is required after ten years, nevertheless, in case of irregular difference between main and back-up meter, TEİAŞ responsible are informed for intervention. TEİAŞ is responsible for calibration and maintenance of the devices.

All documents regarding meter quality and approvals/acceptance have been presented for the current third verification and the records cover the entire monitoring period.

All data collected as part of monitoring will be archived electronically by the project owner and be kept at least for 2 years after the end of the last crediting period.

4.8. Assessment of Data and Calculation of Emission Reductions

The SCADA data records are presented to DOE for all months of the monitoring period. All data in emission reductions table are checked with SCADA data. The monitoring parameters used for emission reduction calculation during the current monitoring period was as follows in Table 4-3 below:

Table 4-3: Monitoring parameters checked and confirmed

Parameter	Amount
Volumetric flow of the gaseous stream to the flares (LFG_{flare}) (Gas flow is measured at Normal Temperature and Pressure)	Total: 38,398.97 Nm ³
Temperature in the exhaust gas of the enclosed flare (T_{flare})	Not measured at every 15 minutes interval therefore conservatively taken as below 500 degree celcius
Flare efficiency ($\eta_{flare, h}$)	Conservatively taken as zero
Volumetric flow of the gaseous stream to the gas engines ($LFG_{electricity}$) (Gas flow is measured at Normal Temperature and Pressure)	Total: 26,096,423 Nm ³
Volumetric fraction of CH ₄ (w_{CH4})	55.11%
Hours of operation	66,144 hours
Electricity export to grid ($EL_{FG,y}$)	65,171.39 MWh
Electricity consumed from grid ($EC_{PJ,y}$)	2.62 MWh
Project emissions from flaring the residual gas stream (PE_{flare})	Calculated based on all the volumetric gas going to the flare taking flare efficiency as zero

Similarly, TEIAS meter reading and EPIAS records are presented to DOE for all months of the monitoring period. All data in emission reductions table are checked with TEIAS meter reading records. The net electricity generated during the current monitoring period was as follows in Table 4-4:

Table 4-4: The net electricity generated values

Period	Amount	Compliance Check
16/04/2016 – 31/12/2016	19,169.270 MWh	Monthly TEIAS meter reading records
01/01/2017 – 31/12/2017	40,182.176 MWh	Monthly TEIAS meter reading records
01/01/2018 – 08/02/2018	5,817.322 MWh	Monthly TEIAS meter reading records
Total	65,168.768 MWh	Monthly TEIAS meter reading records

DOE confirms that the data used for emission reductions are correct. The GWP_{CH4} is taken as 25 and grid emission factor is taken is 0.559 tCO₂/MWh as fixed ex-ante in the registered PDD. DOE also confirms that the methods and formulae used for calculating baseline emissions are in line with the methodology and the registered PDD. The landfill gas combusted in the gas engines is multiplied with the methane fraction and GWP_{CH4} to arrive at the baseline emissions

from landfill gas. The net electricity generation is multiplied with the grid emission factor to arrive at the baseline emissions from electricity generation. As a conservative approach, the PP has not accounted for the landfill gas burnt in the enclosed flare and rather accounted them as project emissions (PE_{flare}). Furthermore, the discounting for the biogas component has also been considered.

The emission reductions are calculated as the differential of the baseline and project emissions. The DOE has also checked the excel spreadsheets and the MR and found them to have correct calculations and consistent presentation.

Besides that, the DOE has checked the I-REC Registry (<https://registry.irecservices.com/Public/ReportDevices/>), wherein only 20 projects from Turkey are listed, namely: Bagarasi Wind Power Plant, Bayramhacili HEPP, Gundogdu Wind Power Plant, Dayıcık 1 Solar Power Plant, Kiyikoy Wind Power Plant, Kuredagi Wind Power Plant, Boreas 1 Enez Wind Power Plant, Seferihisar Wind Power Plant, Manastır Wind Power Plant, Petkim Wind Power Plant, Pamuklu Solar Power Plant, Kargı HEPP, Yedigöl HEPP, Azmak HEPP, Andirin HEPP, Susurluk Wind Power Plant, Sırımtas HEPP, Kayadüzü Wind Power Plant, Killik Wind Power Plant and Menzelet HEPP. Similarly, VCS project database (<http://vcsprojectdatabase.org/#/home>) was checked and this project isn't available within VCS project database. Given that CDM projects are not applicable in Turkey, no domestic REC scheme is implemented yet and the project does not appear on I-REC and VCS registries, it could be confirmed that no RECs and other VER carbon credits are being issued for the project at the time of validation.

4.9. Quality of Evidence

According to the PDD the estimated emission reduction for this monitoring period would be 137,036 tCO₂e. However, the project in operation totally reached 288,074 tCO₂e in this period. The break-up of the emission reductions during the current monitoring period was as follows in Table 4-5 below:

Table 4-5: Emission reduction

Vintage	Emission reductions (tCO ₂ e)
16/04/2016 – 31/12/2016	81,009
01/01/2017 – 31/12/2017	179,248
01/01/2018 – 08/02/2018	27,817
Total	288,074

Calculations have been reproduced by DOE and the source data (SCADA and TEIAS meter reading records) are presented by PP. The DOE has performed plausibility check based on the available hours during the monitoring period, the actual hours of operation of the gas engines and the associated electricity generation based on the landfill gas being combusted.

4.10. Management System and Quality Assurance

The monitoring arrangements in the monitoring plan are feasible within the project design. To guarantee the accuracy of the monitoring data periodic calibration of the installed monitoring

equipment has been carried out according to the monitoring plan of the registered PDD and in accordance with the requirements of the manufacturer. All data are registered and processed electronically. At each booster station, a server unit receives all data sent from the meters and data in real time is saved to an internal memory every hour. The data stored at the booster station server are transferred once per month to a computer and a backup hard drive. In case of failures of the data recording system, no emission reduction will be claimed for that period. The electricity generations supplied to the grid and electricity consumption from the grid are read remotely from the electricity meters by Automatic Meter Reading System by the TEIAS personnel. The data from the protocols are transferred to the excel sheet used for the emission reduction calculations.

There were main and back-up meters attached to the power plant for measurement of the generated electricity. The meters used in the powerhouse are in line with the EMRA requirements for electricity meters. All the electricity meters are bi-directional (meter the energy in two directions - consumption and production). If there is a measuring difference between these two meters and one of the parties (TEIAS or the PP) requests for calibration of the meters, in this case, the meters will be calibrated without waiting for the periodical check.

4.11. Materiality

Verification DOE checked all data set (SCADA and TEIAS meter reading records from 16/04/2016 - 08/02/2018) and each day of production is included in these readings. These readings are exact and are the basis for billing. They are recorded and saved automatically by the relevant government authority and there is no base for any option of material information. Level of materiality is ensured by application of “Guideline on the Application of Materiality in Verifications” version 02. To guarantee this level of assurance all data that is used in the GHG emission reduction calculations have been reviewed without any sampling.

4.12. Verification of Sampling Plan

Not applicable.

4.13. Post Registration Changes

4.13.1. Temporary deviations

Not applicable.

4.13.2. Corrections

Not applicable.

4.13.3. Changes to the start date of the crediting period

The start date of the crediting period has been changed as 09/02/2011, as indicated in the 2nd monitoring period.

4.13.4. Permanent changes

Not applicable.

4.13.5. Changes to the project design

There has been capacity addition at the project site with addition of new gas engines. This has been checked during the on-site visit and relevant provisional acceptance documents. The design change for the same has been approved by Gold Standard on 02/05/2019.

5. LIST OF PERSONS INTERVIEWED

The list of people who were interviewed during the verification period is given in the Table 5-1 below:

Table 5-1: List of persons interviewed

Reference Number	Means of Interview ¹	Full Name	Title	Organization
I01	SV	Erol İREN	General Manager	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
I02	SV	Sinan BEKTAŞ	Deputy General Manager	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
I03	SV	Adem SÖYLER	Operator	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
I04	SV	Selim YILMAZ	Plant Manager	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
I05	SV	Ayşe BAHÇIVAN	Cook (Local)	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
I06	SV	Hülya KOPLAN	Worker (Local)	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
I07	SV	Selma BOĞA	Worker	Samsun Avdan Enerji Üretim ve Tic. A.Ş.
I08	SV	Çağla Balcı ERIŞ	Consultant	Rüzgar Danışmanlık Ltd.
I09	SV	Fatma ZENGİN	Villager	Aşağı Avdan Village
I10	SV	Remzi KESMEN	Villager	Aşağı Avdan Village
I11	SV	Kamiran GENÇ	Mukhtar (Village Head)	Aşağı Avdan Village

The local stakeholders stated in the Table 5-1 above were interviewed about the following issues and there hadn't been any complaint by the interviewed local stakeholders during the site visit:

- Noise due to the project activity
- Design change of the project activity
- Sufficiency of local employment

¹ SV: Site visit; T: Telephone; E: E-mail

- Waste management practices implemented by PP

It was also concluded that the grievance mechanism is in place and this was also confirmed by the interviewed local villagers during the site visit. The document showing the contact details of the relevant person within PP with the signature of Aşağı Avdan Mukhtar (Village Head) dated as 13/02/2019 was also provided to DOE.

6. LIST OF DOCUMENTS REVIEWED

The list of the documents which were reviewed during the verification period is given in the Table 6-1 below:

Table 6-1: List of documents reviewed

Document Number	Document Name	Version	Date (dd/mm/yyyy)
D01	Registered PDD of 'Samsun Landfill Gas to Energy Project, Turkey'	04	13/04/2012
D02	Registered GS Passport of 'Samsun Landfill Gas to Energy Project, Turkey'	03	13/04/2012
D03	Validation Report by TUV Rheinland of 'Samsun Landfill Gas to Energy Project, Turkey'	06	23/07/2012
D04	Verification Report by TUV SUD for 2nd Verification	03	04/03/2015
D05	Final Issuance Review of Previous Verification	-	05/05/2015
D06	Verification Service Agreement	-	11/04/2019
D07	ACM0001: Consolidated baseline and monitoring methodology for landfill gas project activities	11	28/05/2009
D08	ACM0002: Grid-connected electricity generation from renewable sources	12.1	26/11/2010
D09	CDM Validation and Verification Standard for Project Activities	2.0	29/11/2018
D09	CDM Project Standard for Project Activities	2.0	29/11/2018
D10	CDM Project Cycle Procedure for Project Activities	2.0	29/11/2018
D11	Gold Standard (GS) Toolkit	2.1	-
D12	Final Version of GS4GG Design Change Review GS935	-	29/07/2019
D13	Monitoring Report	01	24/01/2020
D14	Monitoring Report	02	06/03/2020
D15	Monitoring Report	03	20/03/2020
D16	Monitoring Report	04	01/04/2020
D17	Monitoring Report	05	22/04/2020
D18	Monitoring Report	06	29/04/2020
D19	Monitoring Report	07	01/05/2020
D20	ER Calculation Excel Sheet	01	24/01/2020
D21	ER Calculation Excel Sheet	02	06/03/2020

Document Number	Document Name	Version	Date (dd/mm/yyyy)
D22	ER Calculation Excel Sheet	03	20/03/2020
D23	ER Calculation Excel Sheet	04	01/04/2020
D24	ER Calculation Excel Sheet	05	22/04/2020
D25	ER Calculation Excel Sheet	06	29/04/2020
D26	ER Calculation Excel Sheet	07	01/05/2020
D27	Electricity Generation License (Last Amendment)		22/03/2018
D28	Provisional Acceptance Protocols	-	09/03/2012 27/09/2013 27/09/2014 22/05/2018
D29	Letter by the Village Head (Mukhtar) of Aşağı Avdan Village (About the Contact Details of PP Relevant Staff In case of Any Complaint)	-	13/02/2019
D30	Submission Protocol Between PP and Village Head (Mukhtar) of Aşağı Avdan Village for Complaint Notebook	-	13/03/2019
D31	Grievance Book Photos		
D32	EIA Not Necessary Decision	-	28/08/2015
D33	Environmental and Technical Report of the Project	-	12/2017
D34	Email Communications with GS on Capacity Addition and Renewal Crediting Period of 'Samsun Landfill Gas to Energy Project, Turkey'	-	12/2018 01/2019 03/2019
D35	Waste Characterization Study of the Project	-	2012
D36	Waste Amount Details	-	2017 2018 2019
D37	Used Equipment Technical Documents	-	-
D38	Meter Test Reports		21/12/2011 05/05/2014 04/10/2017
D39	EPIAS Monthly Screenshots	-	04/2016-02/2018
D40	TEIAS Meter Reading Records	-	04/2016-02/2018
D41	Municipal Letter on Leachate	-	05/03/2014
D42	Social Security Records of PP Site Staff	-	-
D43	Training Records and Certificates (As detailed in Section 4.6)	-	26/10/2016 09/05/2017 08/08/2017

Document Number	Document Name	Version	Date (dd/mm/yyyy)
			14/12/2017 27/04/2018
D44	Site Visit Photos		16/04/2019
D45	Monitoring Report	08	15/06/2020
D46	ER Calculation Excel Sheet	08	16/05/2020

7. VERIFICATION TEAM AND ITR COMPETENCE

Sandeep KANDA holds a degree in Mechanical Engineering, Masters in Energy systems engineering from Indian Institute of Technology – Bombay and Post Graduate Diploma in Industrial Safety & Environmental Management from National Institute of Industrial Engineering in India. He has more than ten years of work experience with auditing and consultancy firms, seven years thereof with Designated Operational Entities under the CDM. He is experienced working on diversified areas of energy and environmental management, including policies, Clean Development Mechanism (CDM), Corporate Sustainability Reporting (CSR) Audits, energy audits, utility audits and product development. As CDM auditor and technical reviewer for TÜV Süd, he has audited more than 30 CDM projects as technical reviewer; 40 projects as lead auditor and 7 PoAs in various capacities; covering a broad range of sectoral scopes, such as Energy industries (renewable - / non-renewable sources), Energy distribution, Energy demand, Manufacturing industries, Chemical industries, Transport, Metal production, Waste handling & disposal and Agriculture. He has been working as a contracted team leader, technical reviewer, TA 1.1 and renewable energy expert in the context of Re Carbon.

Anil SÖYLER, Bsc. in Environmental Engineering, has completed his Bachelor degree in Middle East Technical University, Turkey. His Master study in the same field is at thesis stage and has more than 15 years of professional experience in environmental management, monitoring and auditing, waste and waste water management, environmental and social impact assessment, several GHG emission report and projects' validation and verification, environmental reports, and quality management systems. He has been involved in both national and international projects supported by IFC and World Bank. He has been working as Certification Manager in the context of Re Carbon.

Sukanta DAS, has done Msc. in Physics and M. Tech in Energy technology from Tezpur Central University in India. He is a certified lead auditor for ISO 14001 EMS LA. He has more than five years of work experience at TUV NoRD under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/CDM Lead Assessor in TUV NoRD and was involved in more than 80 CDM validation and verifications activities and Gold Standard, VER projects as a team leader/technical reviewer / validator / verifier covering the sectoral scopes 1 and 13. He has been working as a contracted team leader, technical reviewer and renewable energy expert in the context of Re Carbon.

7.1. Appointment Certificates

Re Carbon Gözetim Denetim ve Belgelendirme Ltd. Şti. Bugi's Plaza Muhsin Yezicioglu Cad. 43/11 TR : 06520 Beşteş-Ankara Tel: 0090 312 287 5122 Fax: 0090 312 287 3573	Certificate of Appointment	
	Carbon Division	

This Certificate of Appointment is given to **Mr. Sandeep KANDA** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	05-05-2017	05-05-2017

Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	05-05-2017	05-05-2017

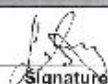
Speciality	Regional expertise	Financial expertise	Technical area
N/A	Mexico, China, Indonesia, Thailand, Philippines, Vietnam, Tanzania	05-05-2017	1.1, 1.2, 2.1, 3.1, 4.1, 9.1, 9.2, 13.1, 13.2 & 15.1

Within the scope and in strict accordance to the appointment indicated above, the bearer can:

1. Participate in the assessments conducted by Re Carbon Ltd.
2. Take the roles within and outside of the assessment team
3. Bring specific expertise to the assessments

This Certificate of Appointment is valid unless there are changes in the related requirements for the qualification and appointment and/or the person's work agreement is terminated and there is no defined validity period for this Certificate.

However, The Certificate may be updated, suspended or cancelled at any time, as a result of the performance assessments and/or other reasons as defined above.

APPOINTMENT IS GRANTED BY			
Mr. Anil SÖYLER	Certification Manager	05-05-2017	
Name	Position	Date	Signature

FC 063 / 05.05.2017 / 01



Re Carbon Gözetim Denetim ve Belgelendirme Ltd. Şti. Raçlı's Plaza Muhsin Yazıcıoğlu Caddesi 43/11 TR / 08520 Balgat-Ankara Tel: 0390-312-287 5122 Fax: 0390-312-287 3373	Certificate of Appointment	
	Carbon Division	

This Certificate of Appointment is given to **Mr. Anil SÖYLER** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	N/A	N/A	05-05-2017

Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	N/A	05-05-2017

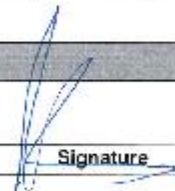
Speciality	Regional expertise	Financial expertise	Technical area
N/A	Turkey, China and Saudi Arabia	N/A	1.2 and 13.1

With the scope and in strict accordance to the appointment indicated above, the bearer can:

1. Participate in the assessments conducted by Re Carbon Ltd.
2. Take the roles within and outside of the assessment team
3. Bring specific expertise to the assessments

This Certificate of Appointment is valid unless there are changes in the related requirements for the qualification and appointment and/or the personnel's work agreement is terminated and there is no defined validity period for this Certificate.

However, The Certificate may be updated, suspended or cancelled at any time, as a result of the performance assessments and/or other reasons as defined above.

APPOINTMENT IS GRANTED BY			
Mr. Christian JOHANNES	General Manager	05-05-2017	
Name	Position	Date	

RC/053/03/19/007.00



Re-Carbon G�zelli�m Denetimi ve Belgelendirme Ltd. �li. Ba�lı Plaza Muhsin Yazıcıo�lu Cad. 43/11 TR - 06520 Bal�at-Ankara Tel: 0090-312-267 5122 Fax: 0090-312-267 3373	Certificate of Appointment	
	Carbon Division	

This Certificate of Appointment is given to **Mr. Sukanta DAS** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	05-05-2017	05-05-2017

Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	05-05-2017	05-05-2017

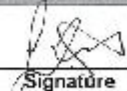
Speciality	Regional expertise	Financial expertise	Technical area
N/A	Saudi Arabia, Morocco and India	N/A	1.1, 1.2 & 13.1

Within the scope and in strict accordance to the appointment indicated above, the bearer can:

1. Participate in the assessments conducted by Re Carbon Ltd.
2. Take the roles within and outside of the assessment team
3. Bring specific expertise to the assessments

This Certificate of Appointment is valid unless there are changes in the related requirements for the qualification and appointment and/or the personnel's work agreement is terminated and there is no defined validity period for this Certificate.

However, The Certificate may be updated, suspended or cancelled at any time, as a result of the performance assessments and/or other reasons as defined above.

APPOINTMENT IS GRANTED BY			
Mr. Ali S�YLER	Certification Manager	05-05-2017	
Name	Position	Date	Signature



8. VERIFICATION AND CERTIFICATION OPINION

Re Carbon Ltd. has performed the 3rd periodic verification of Gold Standard “Samsun Landfill Gas to Energy Project, Turkey” which is a project with the registry reference number “GS 935” for the period between 16/04/2016 and 08/02/2018. The scope of the activities covers the verification and certification of GHG emissions reductions reported in Monitoring Report Version 08 dated 15/06/2020 of “Samsun Landfill Gas to Energy Project, Turkey”.

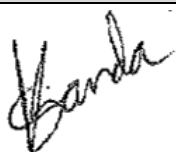
Samsun Avdan Enerji Üretim ve Tic. A.Ş. are responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring Plan indicated in the final PDD. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the Project. The development and maintenance of the records and the related monitoring procedures are in accordance with the Monitoring Report Version 08.

The verification has been performed by a verification team consisting of “Sandeep Kanda as team leader, Anıl Söyler as validator and Sukanta Das as ITR”, and the project activity was checked against the applicable rules and regulations of CDM including Section I of CDM Modalities and Procedures, the relevant guidance and decisions of the COP/MOP, CDM EB and CDM Validation and Verification Standard version 02, CDM Project Standard version 02, CDM Project Cycle Procedure version 02 and GS Toolkit version 2.1.

Re Carbon Ltd. hereby confirms that the project activity “Samsun Landfill Gas to Energy Project, Turkey” in Turkey, is implemented in accordance with the validated and registered PDD version 04 dated 13/04/2012. The monitoring system is in place and the emission reductions are calculated without material misstatements as per the applied approved methodology, which is ACM0001 Version: 11 & ACM0002 Version: 12.1.

Re Carbon Ltd. confirms the following based on the results of document review and on-site assessment:

Project Title	Samsun Landfill Gas to Energy Project, Turkey
Applicable Period	3rd Monitoring Period (16/04/2016 and 08/02/2018 both days included)
Baseline Emissions	288,458 tCO ₂ e
Project Emissions	384 tCO ₂ e
Leakage Emissions	0 tCO ₂ e
Emission Reductions	288,074 tCO ₂ e (2016: 81,009 tCO ₂ e; 2017: 179,248 tCO ₂ e; 2018: 27,817 tCO ₂ e)



Sandeep KANDA
Team Leader
22/06/2020



Sukanta DAS
ITR
22/06/2020



Anıl SOYLER
Certification Manager
22/06/2020

ANNEX 1: VERIFICATION PROTOCOL

Table 1 – CDM Monitoring Report (MR) Form Requirements

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
Cover Page					
1. Has the following information been provided on the cover page of the MR?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
1.1. Title of the project activity;	CDM-MR-FORM version 7.0	DR	Title indicated as – ‘Samsun Landfill Gas to Energy Project, Turkey’, as in the registered PDD and validation report.	OK	OK
1.2. Reference number of the project activity;	CDM-MR-FORM version 7.0	DR	Reference no. is GS935	OK	OK
1.3. Version number of the monitoring report;	CDM-MR-FORM version 7.0	DR	V01 for the first submission.	OK	OK
1.4. Completion date of the monitoring report (DD/MM/YYYY);	CDM-MR-FORM version 7.0	DR	The first submitted MR file is dated 24/01/2020.	OK	OK
1.5. Registration date of the project activity (DD/MM/YYYY);	CDM-MR-FORM version 7.0	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

R-C-18 / 18.05.2018 - 02

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.6. Monitoring period number and duration of this monitoring period (first and last days included (DD/MM/YYYY-DD/MM/YYYY));	CDM-MR-FORM version 7.0	DR	This third periodic monitoring period is indicated to cover the period 16/04/2016 - 08/02/2018 (both days included). However, the second monitoring period was from 01/12/2012 – 31/08/2014. As per communication from GS TAC, the project can only request issuance for the latest three years prior to verification site visit date for which monitoring data can be verified. It means that the project may have more than three years gap between site visits, but the project will only be issued ERs for the latest three years prior to verification site visit date. The remaining years / months of the monitoring period will be foregone without any extension in the registered crediting period.	OK	OK
1.7. Project participant(s);	CDM-MR-FORM version 7.0	DR	Samsun Aydan Enerji Üretim ve Tic. A.Ş.	OK	OK
1.8. Host Party(ies);	CDM-MR-FORM version 7.0	DR	Turkey	OK	OK
1.9. Sectoral scope and selected methodology(ies), and where applicable, applied standardized baseline(s);	CDM-MR-FORM version 7.0	DR	ACM0001 Version: 11 & ACM0002 Version: 12.1	OK	OK
1.10. Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD;	CDM-MR-FORM version 7.0	DR	The estimated amount of GHG emission reductions for this monitoring period in the registered PDD has not been correctly presented.	CAR-1	OK
1.11. Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period;	CDM-MR-FORM version 7.0	DR	The emission reductions achieved during the 3 rd monitoring period is not stated correctly and is to be revised. Further, round-down function to be applied in the ER calculation for each vintage.	CAR-2	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.12. If the monitoring period starts before 31 December 2012 and ends anytime thereafter, actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved during the period up to 31 December 2012;	CDM-MR-FORM version 7.0	DR	As the current monitoring period is after 31 December 2012, therefore the value in the associated cell is to be corrected.	CAR-3	OK
1.13. If the monitoring period starts before 31 December 2012 and ends anytime thereafter, actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved during the period from 1 January 2013 onwards.	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-3	OK
General Requirements					
2. Has the following requirements been followed for the completion of MR?	CDM-MR-FORM version 7.0	DR	The most recent version of the monitoring report form has not been used.	CAR-4	OK
2.1. Completing the CDM-MR-FORM and all attached documents in English or containing a full translation of relevant sections in English	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-4	OK
2.2. Completing the CDM-MR-FORM using the same format without modifying its font, headings or logo	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-4	OK
2.3. Completing the CDM-MR-FORM without any other alteration	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-4	OK
2.4. Completing the CDM-MR-FORM by deleting the Attachment of "Instructions for filling out the monitoring report form"	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-4	OK
2.5. Not modifying or deleting tables and their columns in the CDM-MR-FORM	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-4	OK
A. Description of the Project Activity					
A.1. Purpose and general description of the project activity					
A.1.1. Has a brief summary of the detailed description given in the section B.1 provided under section A.1 of the MR?	CDM-MR-FORM version 7.0	DR	As per the earlier registered PDD and the last performed 2 nd periodic verification, the electricity generation capacity was indicated as 4.8 MW, whereas the PDD submitted for renewal indicates a capacity of 8.4 MW. Please	CAR-5	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
			clarify the dates of commissioning of each engine separately and also indicate the capacity to be considered for this monitoring period, accounting for the design change approval from GS. Further, it is noticed that the project has biogas application too, but it is not added to project boundary, although it blends in the same pipe as of LFG and goes to the engines, his too needs to be clarified.		

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
A.1.2. Has the purpose of the project activity and the measures taken to reduce greenhouse gas emissions been provided under section A.1 of the MR?	CDM-MR-FORM version 7.0	DR	Yes, the project activity destroys methane through landfill gas extraction from the landfill. The landfill gas is used for the purpose of electricity generation via gas engines and the electricity is supplied to the Turkish national grid displacing fossil fuel based electricity generation.	OK	OK
A.1.3. Has a brief description of the installed technology and equipments been provided under section A.1 of the MR?	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-5	OK
A.1.4. Has the relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.) been provided under section A.1 of the MR?	CDM-MR-FORM version 7.0	DR	Refer CAR above	CAR-5	OK
A.1.5. Has the total emissions reductions achieved in this monitoring period been provided under section A.1 of the MR?	CDM-MR-FORM version 7.0	DR	Please correct the total emission reductions achieved in the monitoring period.	CAR-6	OK
A.2. Location of the project activity					
A.2.1. Has complete information on the location of the project activity, including town, city, country and GPS coordinates been provided under section A.2 of the MR?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
A.3. Parties and project participant(s)					
A.3.1. Has the list of the Parties and PPs been provided under section A.3 of the MR?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
A.4. Reference of applied methodology and standardized baseline					
A.4.1. Has a complete reference of the methodology or standardized baseline(s), tools and other methodologies to which the applied methodology(ies) applied been provided under section A.4 including the version numbers and titles?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
A.5. Crediting period of project activity					
A.5.1. Has the crediting period including the crediting period	CDM-MR-FORM	DR	The crediting period indicated in the submitted	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
start date, choice and length of the crediting period been provided under section A.5 of the MR?	version 7.0		monitoring report is 09/02/2011- 08/02/2018. This is consistent with the previous verification report.		
B. Implementation of the Project Activity					
B.1. Description of implemented registered project activity					
B.1.1. Has the installed technology(ies), technical process and equipment, including the diagrams, where appropriate, been included in section B.1 of the MR?	CDM-MR-FORM version 7.0	DR	Please clearly indicate the installed equipment, including a diagram. Further, provide the commissioning dates of the gas engines. Also clarify on the make (Jenbacher or Convoco) and details of the flaring unit.	CAR-7	OK
B.1.2. Has the information on the implementation and actual operation of the project activity (including relevant dates, construction, commissioning, continued operation periods etc.) been provided under section B.1 of the MR?	EB82 Report Annex 13 \$244b	DR	Refer CAR above	CAR-7	OK
B.1.3. If the project activity consists of more than one site, has the status of implementation and starting date of operation for each site been clearly described under section B.1 of the MR?	EB82 Report Annex 13 \$244b	DR	The project consists of only one site.	OK	OK
B.1.4. If the implementation of the project activity planned to be realized in different phases, has the progress of the proposed CDM project activity achieved in each phase been indicated under section B.1 of the MR?	EB82 Report Annex 13 \$244b	DR	Refer CAR above	CAR-7	OK
B.1.5. Has a brief description of the events or situations that occurred during the monitoring period, which may affect the applicability of the methodology and, where applicable, the applied standardized baseline, been provided under section B.1 of the MR?	EB82 Report Annex 13 \$244c	DR	N/A	OK	OK
B.1.6. Has a brief description of how the issues resulting from these events or situations are being addressed been provided under section B.1 of the MR?	EB82 Report Annex 13 \$244c	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
B.1.7. Do the actual project activity and its operation comply with the registered PDD?	EB82 Report Annex 14 \$383a	DR	Yes	OK	OK
B.1.8. Have the PPs implemented and operated the CDM project activity as per the descriptions contained in the registered PDD?	EB82 Report Annex 14 \$383a	DR	Yes	OK	OK
B.2. Post registration changes					
B.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline					
B.2.1.1. Is it indicated whether any temporary deviations have been applied during this monitoring period?	EB82 Report Annex 13 \$272 EB82 Report Annex 14 \$298 CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.1.2. If there are temporary deviations from the registered monitoring plan or applied methodology or standardized baseline, have PPs described the nature, extent and duration of the non-conforming monitoring and the proposed alternative monitoring of the project activity in the MR?	EB82 Report Annex 13 \$272 CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.1.3. If there are temporary deviations from the registered monitoring plan or applied methodology or standardized baseline, do the description of deviations include the following?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.1.3.1. How it deviates from the monitoring plan and/or applied methodology(ies),	CDM-MR-FORM version 7.0	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
B.2.1.3.2. The duration for which the deviation(s) is(are) applicable	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.1.3.3. Justification on the conservativeness of the approach.	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.1.4. If there are temporary deviations from the registered monitoring plan or applied methodology or standardized baseline, have PPs applied conservative assumptions or discount factors to the calculations to the extent required to ensure that GHG emission reductions will not be over-estimated as a result of the deviation?	EB82 Report Annex 13 \$274 EB82 Report Annex 14 \$300	DR	N/A	OK	OK
B.2.1.5. If there are temporary deviations from the registered monitoring plan and/or monitoring methodology or standardized baseline, is the deviation likely to lead to a reduction in the accuracy of the calculation of emission reductions?	EB82 Report Annex 14 \$300	DR	N/A	OK	OK
B.2.1.6. If the deviation(s) require prior approval by the Board, do they include the date of approval and reference number?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.1.7. Where the changes are identified by or submitted to the re-consult to conduct the verification, are these changes solely of a type(s) listed in Appendix 1 of the Project Standard?	EB82 Report Annex 14 \$299	DR	N/A	OK	OK
B.2.2. Corrections					
B.2.2.1. Is it indicated whether any corrections to project information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report?	CDM-MR-FORM version 7.0 EB82 Report Annex 14 \$303	DR	N/A	OK	OK
B.2.2.2. If the correction(s) and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, are the approval	CDM-MR-FORM version 7.0	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
date and reference number provided?					
B.2.2.3. If the correction(s) and the revised PDD aren't approved prior to the submission of this monitoring report for request for issuance, are the version number and the completion date of the revised PDD provided?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.2.4. Is the corrected information an accurate reflection of actual project information?	EB82 Report Annex 14 \$304a	DR	N/A	OK	OK
B.2.2.5. Are the corrected parameters in accordance with the applied methodology, selected monitoring plan and/or the applied standardized baseline?	EB82 Report Annex 14 \$304b	DR	N/A	OK	OK
B.2.3. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline					
B.2.3.1. Is it indicated whether any permanent changes from the registered monitoring plan or applied methodologies or standardized baseline had been approved during this monitoring period or submitted with this monitoring report?	CDM-MR-FORM version 7.0 EB82 Report Annex 14 \$312	DR	N/A	OK	OK
B.2.3.2. Are the changes to the monitoring plan contained in the registered PDD in compliance with the applied methodology and, where applicable, the applied standardized baseline?	EB82 Report Annex 14 \$313	DR	N/A	OK	OK
B.2.3.3. Do the changes reduce the level of accuracy of the monitoring compared with the requirements contained in the registered monitoring plan?	EB82 Report Annex 14 \$313	DR	N/A	OK	OK
B.2.3.4. In cases where the proposed changes refer to a later version of the applied methodology and/or the applied standardized baseline in the registered PDD, does the application of any later version of the applied methodology and tools and/or the	EB82 Report Annex 14 \$314	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
applied standardized baseline affect the conservativeness of the monitoring and verification process, including the related emission reduction calculations?					
B.2.3.5. If the permanent changes are likely to lead to a reduction in the accuracy of the calculation of emission reductions, do the PPs apply conservative assumptions or discount factors to the calculations to the extent required to ensure that emission reductions will not be over-estimated as a result of the permanent change?	EB82 Report Annex 14 §315	DR	N/A	OK	OK
B.2.3.6. If the parameter is used for calculating baseline GHG emissions, is the difference between the accuracy level of the installed monitoring equipment and the accuracy prescribed by the applied methodology, where applicable, the applied standardized baseline and/or the registered monitoring plan deducted from the measured value?	EB82 Report Annex 13 Appendix I §4	DR	N/A	OK	OK
B.2.3.7. If the parameter is used for calculating project GHG emissions, is the difference between the accuracy level of the installed monitoring equipment and the accuracy prescribed by the applied methodology, where applicable, the applied standardized baseline and/or the registered monitoring plan added to the measured value?	EB82 Report Annex 13 Appendix I §4	DR	N/A	OK	OK
B.2.3.8. If the permanent changes and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, are the approval date and reference number provided?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.3.9. If permanent changes and the revised PDD aren't approved prior to the submission of this monitoring	CDM-MR-FORM version 7.0	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
report for request for issuance, are the version number and the completion date of the revised PDD provided?					
B.2.4. Changes to project design of registered project activity					
B.2.4.1. Are there proposed or actual changes to the project design of a registered project activity?	EB82 Report Annex 14 \$317	DR	Please clearly indicate the changes in the project design including the additional gas engines and biogas too. Also, the flow chart of the implemented project needs to be clarified further with the installed measurement instruments.	CAR-8	OK
B.2.4.2. Do the proposed or actual changes affect the implementation of the project activity?	EB82 Report Annex 14 \$323a	DR	The increase in LFG destruction and associated electricity generation need to be clearly presented as the actual changes affecting the implementation of the project activity.	CAR-9	OK
B.2.4.3. In case of actual changes, does the description of actual changes accurately reflect the implementation, operation and monitoring of the modified project activity?	EB82 Report Annex 14 \$318	DR	The changes impacting the operation and monitoring of the project activity needs to be clearly depicted.	CAR-10	OK
B.2.4.4. Do the actual changes comply with the monitoring plan, the applied monitoring methodology and tools and/or, where applicable, the applied standardized baseline, and/or the level of accuracy of the monitoring activity?	EB82 Report Annex 14 \$319	DR	Please refer to CAR above	CAR-10	OK
B.2.4.5. Does the revised PDD comply with the applied monitoring methodology and tools and/or standardized baseline or any later version of the methodology and/or standardized baseline or the requirements of another methodology and/or the standardized baseline that is applicable to the project activity?	EB82 Report Annex 14 \$324	DR	N/A	OK	OK
B.2.4.6. Does the changes to project activity include the	EB82 Report Annex 13	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
following?	\$289				
B.2.4.6.1. Changes in the effective output capacity due to increased installed capacity or increased number of units, or installation of units with lower capacity or units with a technology which is less advanced than that described in the PDD?	EB82 Report Annex 13 \$289a	DR	Please refer to CAR above	CAR-9	OK
B.2.4.6.2. Addition of component or extension of technology has been occurred?	EB82 Report Annex 13 \$289b	DR	Please refer to CAR above	CAR-9	OK
B.2.4.6.3. Removal or addition of one (or more) site of a project activity registered with multiple-sites?	EB82 Report Annex 13 \$289c	DR	N/A	OK	OK
B.2.4.6.4. Actual operational parameters which are within the control of project participants differing from the expected parameters?	EB82 Report Annex 13 \$289d	DR	N/A	OK	OK
B.2.4.6.5. Any consequential changes to the baseline methodology, including changing or adding another baseline methodology or applying a baseline scenario that is more appropriate as a result of the proposed or actual modifications to the project activity?	EB82 Report Annex 13 \$289e	DR	N/A	OK	OK
B.2.4.7. Do the PPs report in the revised PDD the impacts of the proposed or actual changes to the registered project activity on the following:	EB82 Report Annex 13 \$292	DR	N/A	OK	OK
B.2.4.7.1. The applicability and application of the applied methodology and, where applicable, the applied standardized baseline under which the project activity has been registered;	EB82 Report Annex 13 \$292a EB82 Report Annex 14 \$320c	DR	N/A	OK	OK
B.2.4.7.2. Compliance of the monitoring plan with the applied methodology and, where	EB82 Report Annex 13 \$292b	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
applicable, the applied standardized baseline;	EB82 Report Annex 14 \$320d				
B.2.4.7.3. The level of accuracy and completeness in the monitoring of the project activity;	EB82 Report Annex 13 \$292c	DR	N/A	OK	OK
B.2.4.7.4. The additionality of the project activity;	EB82 Report Annex 13 \$292d EB82 Report Annex 14 \$320a	DR	N/A	OK	OK
B.2.4.7.5. The scale of the project activity.	EB82 Report Annex 13 \$292e EB82 Report Annex 14 \$320b	DR	N/A	OK	OK
B.2.4.8. If the proposed or actual changes affect the additionality of the registered project activity,	EB82 Report Annex 13 \$292d	DR	N/A	OK	OK
B.2.4.8.1. In the case of investment analysis, have PPs modified the key parameters in the original spreadsheet calculations affected by the proposed or actual modifications to the project activity?	EB82 Report Annex 14 \$321a EB82 Report Annex 13 \$294a	DR	N/A	OK	OK
B.2.4.8.2. In cases where only barriers have been claimed to demonstrate additionality, have PPs demonstrated that the barriers are still valid under the new circumstances?	EB82 Report Annex 14 \$321b, EB82 Report Annex 13 \$294b	DR	N/A	OK	OK
B.2.4.9. If the PPs can't demonstrate compliance with the requirements of the applied methodology and,	EB82 Report Annex 13 \$296	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
where applicable, the applied standardized baseline under which the project activity has been registered,					
B.2.4.9.1. Has PPs revised the PDD applying the latest version of the methodology and, where applicable, the applied standardized baseline?	EB82 Report Annex 13 \$296a-i	DR	N/A	OK	OK
B.2.4.9.2. If another methodology and, where applicable, the applied standardized baseline is applied to the project activity, has PPs demonstrated compliance with the requirements of the selected methodology and/or the selected standardized baseline?	EB82 Report Annex 13 \$296b EB82 Report Annex 14 \$323c-ii	DR	N/A	OK	OK
B.2.4.10. Is it indicated whether any changes to the project design of the project activity from the registered monitoring plan or applied methodologies had been approved during this monitoring period or submitted with this monitoring report?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.4.11. If the changes and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, are the approval date and reference number provided?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.4.12. If the changes and the revised PDD aren't approved prior to the submission of this monitoring report for request for issuance, are the version number and the completion date of the revised PDD provided?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
B.2.5. Changes to start date of crediting period					
B.2.5.1. Is it indicated whether any changes to the start date of the crediting period had been approved	EB82 Report Annex 14 \$306; EB82	DR	As stated in the second monitoring report; "The start date of the crediting period has been changed as 09.02.2011.	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
during this monitoring period or submitted with this monitoring report?	Report Annex 13 \$277 \$278 \$280				
B.2.5.2. Have the changes been notified to the Secretariat by the PPS?	EB82 Report Annex 13 \$279	DR	N/A	OK	OK
B.2.5.3. If where the changes and the revised PDD are approved prior to the submission of this monitoring report for request for issuance, are the approval date and reference number provided?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
C. Description of the Monitoring System					
C.1. Has a description of the monitoring system been provided under section C of the MR?	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	Yes	OK	OK
C.2. Has information about the data collection procedures, including following been provided under section C of the MR?	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	For the methane destruction component, it is stated that 'Measured data has been cross checked to ensure data quality and in case of mismatches necessary procedures has been conservatively taken'. Please clarify on such procedures. Further, for the methane destruction component, it is stated that 'Data handling: For the PLC system data that are corrupted or missing, a deviation from the registered monitoring plan is presented in Section B.2.3.' The reference and description is to be corrected.	CAR-11	OK
C.2.1. Information flow including data generation	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	Yes	OK	OK
C.2.2. Data aggregation	CDM-MR-FORM version 7.0 EB82 Report	DR	Refer CAR above	CAR-11	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
	Annex 13 \$246				

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
C.2.3. Data recording	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	Yes	OK	OK
C.2.4. Data calculation	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	Yes	OK	OK
C.2.5. Data reporting	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	Yes	OK	OK
C.3. Has organizational structure, roles and responsibilities of personnel, and emergency procedures for the monitoring system been provided under section C of the MR?	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	Yes	OK	OK
C.4. Regarding to the management and operational system, are the responsibilities and authorities for monitoring and reporting in accordance with the responsibilities and authorities stated in the monitoring plan?	EB82 Report Annex 14 \$390b-iv	DR	Yes	OK	OK
C.5. Have quality assurance and quality control procedures been applied in accordance with the monitoring plan?	EB82 Report Annex 14 \$390e	DR	Yes	OK	OK
C.6. Has line diagram(s) showing all relevant monitoring points been provided under section C of the MR?	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$246	DR	The line diagram showing all relevant monitoring points is to be provided in section C of the MR.	CAR-12	OK
C.7. Have the monitoring plan been properly implemented and	EB82 Report	DR	Refer to CAR above	CAR-12	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
followed by the PPs?	Annex 14 \$389				
C.8. Has the monitoring of parameters (baseline / project / leakage / emission reduction) in the project activity been implemented in accordance with the monitoring plan contained in the registered PDD or any accepted revised monitoring plan?	EB82 Report Annex 14 \$390b-(i)-(ii)-(iii)	DR	Refer to CAR above	CAR-12	OK
C.9. Have all parameters stated in the monitoring plan, the applied methodology and relevant CDM EB decisions been sufficiently monitored and updated as applicable?	EB82 Report Annex 14 \$390	DR	Refer to CAR above	CAR-12	OK
C.10. Are monitoring results consistently recorded and stored as per the approved frequency?	EB82 Report Annex 14 \$390d	DR	Refer to CAR above	CAR-12	OK
D. Data and Parameters					
D.1. Data and parameters fixed ex ante or at renewal of crediting period					
D.1.1. Has all the data that is determined only once for the crediting period but are used after registration of the project, been listed under section D.1 using the tabular format?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.1.2. If all the data that is determined only once for the crediting period but are used after registration of the project, does the listed data include all the parameters used to calculate baseline, project and leakage emissions as well as other relevant parameters required by the approved methodology and the monitoring plan?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.1.3. In the data/parameter tables provided under section D.1 of the MR, for each data has the name of the data/parameters given in accordance with the registered PDD and the applied approved methodology?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.1.4. In the data/parameter tables provided under section	CDM-MR-FORM version 7.0	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
D.1 of the MR, for each data has the unit of the data/parameters given in accordance with the registered PDD and the applied approved methodology?					
D.1.5. In the data/parameter tables provided under section D.1 of the MR, for each data has the description of the data/parameters given in accordance with the registered PDD and the applied approved methodology?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.1.6. In the data/parameter tables provided under section D.1 of the MR, for each data has the source of the data/parameters given in accordance with the registered PDD and the applied approved methodology?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.1.7. In the data/parameter tables provided under section D.1 of the MR, for each data has the values applied of the data/parameters given in accordance with the registered PDD and the applied approved methodology?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.1.8. In the data/parameter tables provided under section D.1 of the MR, for each data has it been indicated what the data/parameters are used for (baseline/project /leakage emission calculations)?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.2. Data and parameters monitored					
D.2.1. Has all the data that are monitored been listed under section D.2 of the MR using the tabular format?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.2.2. In the data/parameter tables provided under section D.2 of the MR, for each data has the name of the data/parameters given in accordance with the registered PDD and the applied approved methodology?	CDM-MR-FORM version 7.0	DR	Yes, however, there are additional parameters too listed in the section.	OK	OK
D.2.3. In the data/parameter tables provided under section D.2 of the MR, for each data has the unit of the data/parameters given in accordance with the registered PDD and the applied approved methodology?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
D.2.4. In the data/parameter tables provided under section D.2 of the MR, for each data has it been described how the data is monitored?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.2.5. In the data/parameter tables provided under section D.2 of the MR, for each data has the source of data been indicated (like logbooks, daily records, surveys, etc.)?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.2.6. In the data/parameter tables provided under section D.2 of the MR, for each data has the values of the monitoring parameter been indicated?	CDM-MR-FORM version 7.0	DR	The values of the monitoring parameters are not stated correctly, for the following: 1. Net amount of electricity supplied to the grid by the project – Proper appropriation for the capacity to be considered during the monitoring period, accounting for the design change has not been done. Further, appropriation for the electricity consumed from the grid should not be applied. Furthermore, electricity supplied to the grid and electricity consumed from the grid has to be explicitly presented vintage wise. Also, the basis for arriving at the value for 04/2016 and 02/2018 is to be clarified. 2. Project emissions from fossil fuel combustion – It needs to be clearly indicated if there has (not) been any consumption of fossil fuel during the monitoring period. 3. Amount of landfill gas – The total landfill gas, LFG to the engines, LFG to the flare and the amount of biogas too injected in the system is to be clearly presented. Further, it is indicated that the 'Total methane mass flow in the residual gas over the crediting period is 10,344 ton of CH₄'. The description and the value are to be	CAR-13	OK

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
			corrected for this statement. 4. Methane fraction in the landfill gas – The percentage of methane in the LFG needs to be clearly presented vintage wise. Also, it needs to be clarified that this is before/after the biogas injection. 5. Project emissions from flaring of the residual gas – The value of the project emissions is to be checked and corrected. 6. Operation of the power plant – Owing to the design change, the operational hours are to be presented for the different engines and vintage wise, accounting for the design change approval too. 7. Temperature in the exhaust gas of the enclosed flare in minute <i>m</i> – The values have not been provided. If the temperature is not measured or is below 500 deg. C and/or the flame detection is not operational, the flare efficiency is to be taken as zero. 8. Correction factor for error margin – The basis for application of the correction factor is to be clarified along with the derivation of the value.		

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
D.2.7. In the data/parameter tables provided under section D.2 of the MR, for each data has the QA/QC procedures being applied been given?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.2.8. In the data/parameter tables provided under section D.2 of the MR, for each data has it been indicated what types of equipment are used to monitor each parameter, including following, if applicable as per the monitoring plan?	CDM-MR-FORM version 7.0	DR	The details about accuracy class, calibration frequency, serial number, calibration date(s), validity of calibration are to be provided for all the relevant measurement instruments, covering the monitoring period. The details for the KÖHLER make electricity meter is missing. Further, the associated calibration records for all the relevant measuring instruments apart from the electricity meters too are to be submitted.	CAR-14	OK
D.2.8.1. Details on accuracy class	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-14	OK
D.2.8.2. Calibration frequency	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-14	OK
D.2.8.3. Serial number	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-14	OK
D.2.8.4. Calibration date	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-14	OK
D.2.8.5. Validity of the calibration	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-14	OK
D.2.9. In the data/parameter tables provided under section D.2 of the MR, for each data has the measurement and recording frequency been indicated?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
D.2.10. Is the calibration frequency for measuring equipments specified in the monitoring methodology, guidance provided by the Board or in the monitoring plan?	EB82 Report Annex 14 \$398	DR	Yes	OK	OK
D.2.11. If the calibration frequency for measuring equipments isn't specified in the monitoring methodology, guidance	EB82 Report Annex 14 \$399	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
provided by the Board or the monitoring plan, are the equipments calibrated either in accordance with the specifications of the local/national standards, or as per the manufacturer's specification?					
D.2.12. If neither local/national standards nor the manufacturer's specification are available, have the international standards been used?	EB82 Report Annex 14 \$399	DR	N/A	OK	OK
D.2.13. Is the calibration of the measuring equipments that have an impact on the claimed emission reductions conducted by the PPs at a frequency specified in the applied monitoring methodology and/or the monitoring plan?	EB82 Report Annex 14 \$394	DR	N/A	OK	OK
D.2.14. Has the calibration been delayed and has the calibration been implemented after the monitoring period in consideration (i.e. the results of delayed calibration are available) for the certain monitoring period?	EB82 Report Annex 14 \$395	DR	N/A	OK	OK
D.2.15. If the calibration is delayed and if the calibration is implemented after the monitoring period in consideration (i.e. the results of delayed calibration are available) for the certain monitoring period, are one of the following approaches adopted by the PPs for the calculation of emission reductions?	EB82 Report Annex 14 \$395	DR	N/A	OK	OK
D.2.15.1. Applying the maximum permissible error of the instrument to the measured values taken during the period between the scheduled date of calibration and the actual date of calibration, if the results of the delayed calibration do not show any errors in the measuring equipment, or if the error is smaller than the maximum permissible error; or	EB82 Report Annex 14 \$395a	DR	N/A	OK	OK
D.2.15.2. Applying the error identified in the delayed	EB82 Report	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
calibration test, if the error is beyond the maximum permissible error of the measuring equipment.	Annex 14 \$395b				
4.2.16. If calibration is delayed and if the calibration is implemented after the monitoring period in consideration (i.e. the results of delayed calibration are available) for the certain monitoring period, has the error been applied in following ways?	EB82 Report Annex 14 \$396	DR	N/A	OK	OK
D.2.16.1. The adjusted measured values of the delayed calibration result in fewer claimed emission reductions?	EB82 Report Annex 14 \$396a	DR	N/A	OK	OK
D.2.16.2. For all measured values taken during the period between the scheduled date of calibration and the actual date of calibration?	EB82 Report Annex 14 \$396b	DR	N/A	OK	OK
4.2.17. If the results of the delayed calibration aren't available, is there any plan to conduct the required calibration?	EB82 Report Annex 14 \$397	DR	N/A	OK	OK
4.2.18. If the results of the delayed calibration aren't available, have Pss calculated the emission reductions conservatively?	EB82 Report Annex 14 \$397	DR	N/A	OK	OK
4.2.19. If the results of the delayed calibration aren't available, have post registration requirements been followed by the PPS?	EB82 Report Annex 14 \$398	DR	N/A	OK	OK
4.2.20. Have any information about appropriate emission factors, IPCC default values and any other reference values that have been used in the calculation of emission reductions been given in detail in the MR?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
4.2.21. If the data that are monitored been listed under section D.2 using the tabular format, does the listed data include all the parameters used to calculate baseline, project and leakage emissions as well as other relevant parameters required by the approved methodology and, where applicable, the applied standardized baseline and	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$247	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
the monitoring plan?					
4.2.22. Is a complete set of data available for the specified monitoring period?	EB82 Report Annex 14 \$402a	DR	Yes	OK	OK
4.3. Implementation of sampling plan					
4.3.1. If data and parameters monitored described in section D.2 of the MR are determined by a sampling approach, has the description on how PPs implemented the sampling for those data and parameters according to the sampling plan been provided?	CDM-MR-FORM version 7.0 EB74 Report Annex 6 EB75 Report Annex 8	DR	N/A	OK	OK
4.3.2. If data and parameters monitored described in section D.2 of the MR are determined by a sampling approach, has the following been included?	CDM-MR-FORM version 7.0 EB74 Report Annex 6 \$25 \$26 \$27	DR	N/A	OK	OK
D.3.2.1. Description of implemented sampling design;	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
D.3.2.2. Collected data (electronic spreadsheets may be attached and referenced);	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
D.3.2.3. Analysis of the collected data;	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
D.3.2.4. Demonstration on whether the required confidence/precision has been met.	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
5. Calculation of Emission Reductions or GHG Removals by Sinks					
5.1. Calculation of baseline emissions or baseline net GHG removals by sinks					
5.1.1. Has all the formulae used to calculate the baseline	CDM-MR-FORM	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
emissions been provided under section E.1 of the MR?	version 7.0				
5.1.2. Has sample calculations for all formulae used and calculation of baseline emissions or baseline net GHG removals by sinks, applying actual values been provided under section E.1 of the MR?	CDM-MR-FORM version 7.0	DR	The grid emission factor has been stated incorrectly as 0.6010 tCO ₂ /MWh in section E.1 as against the value of 0.559 tCO ₂ /MWh. Further, the appropriation for the design change is to be corrected and accordingly the calculated values are to be revised. The electricity consumption from the grid should not be apportioned. Furthermore, the representation with decimal and comma too is to be corrected in table 13. For the methane destruction component, the computation of methane destroyed by flaring is unclear, as the exhaust temperature data and the specifications of the flare device being met are not presented. Further, the project emissions from flare is also not presented correctly.	CAR-15	OK
5.1.3. Has all electronic spreadsheets to present full calculations in the monitoring report been attached?	CDM-MR-FORM version 7.0	DR	The spreadsheet presented indicates that the columns flow engine, flow biogas, flow landfill and flare. These columns are to be explained. Further, looking at the numbers, it appears that the value of flow engine is a summation of the rest three columns. Please clarify and correct accordingly. Furthermore, the spreadsheet is also to be corrected for the vintage wise presentation and proper apportioning as indicated in the previous corrective action requests.	CAR-16	OK
5.1.4. Have any assumptions used in baseline emission calculations been justified?	EB82 Report Annex 14 §402d	DR	Refer to CAR above	CAR-16	OK
5.1.5. If applicable, are the appropriate emission factors used	EB82 Report	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
for the baseline emission calculations in line with the good guidance practices? (e.g. IPCC default values and other reference values)	Annex 14 \$402e				
5.2. Calculation of project emissions or actual net GHG removals by sinks					
5.2.1. Has all the formulae used to calculate the project emissions been provided under section E.2 of the MR?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-16	OK
5.2.2. Has sample calculations for all formulae used and calculation of project emissions or or actual net GHG removals by sinks, applying actual values been provided under section E.2 of the MR?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-16	OK
5.2.3. Has all electronic spreadsheets to present full calculations in the monitoring report been attached?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-16	OK
5.2.4. Have any assumptions used in project emission calculations been justified?	EB82 Report Annex 14 \$402d	DR	Refer to CAR above	CAR-16	OK
5.2.5. If applicable, are the appropriate emission factors used for the project emission calculations in line with the good guidance practices? (e.g. IPCC default values and other reference values)	EB82 Report Annex 14 \$402e	DR	N/A	OK	OK
5.3. Calculation of leakage					
5.3.1. Has all the formulae used to calculate the leakage emissions been provided under section E.3 of the MR?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
5.3.2. Has sample calculations for all formulae used and calculation of leakage emissions, applying actual values been provided under section E.3 of the MR?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK
5.3.3. Has all electronic spreadsheets to present full calculations in the monitoring report been attached?	CDM-MR-FORM version 7.0	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
5.3.4. Have any assumptions used in leakage emission calculations been justified?	EB82 Report Annex 14 \$402d	DR	N/A	OK	OK
5.3.5. If applicable, are the appropriate emission factors used for the leakage emission calculations in line with the good guidance practices? (e.g. IPCC default values and other reference values)	EB82 Report Annex 14 \$402e	DR	N/A	OK	OK
5.4. Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks					
5.4.1. Have the total baseline emissions or baseline net GHG removals by sinks during the monitoring period been given under section E.4 of the MR?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-16	OK
5.4.2. Has the total project emissions or actual net GHG removals by sinks during the monitoring period been given under section E.4 of the MR?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-16	OK
5.4.3. Has the total leakage emissions during the monitoring period been given under section E.4 of the MR?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
5.4.4. Have the total emission reductions or net anthropogenic GHG removals by sinks during the monitoring period been given under section E.4 of the MR?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-16	OK
5.4.5. If there is material information that can cause overestimation of emission reductions or removals of the project activity, is this equal to higher than one of the following?	EB82 Report Annex 14 \$362 \$363 \$366	DR	No	OK	OK
E.4.5.1. 0.5 per cent of the emission reductions or removals for project activities achieving a total emission reduction or removal of equal to or more than 500,000 tons of carbon dioxide equivalent per year?	EB82 Report Annex 14 \$361a	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
E.4.5.2. 1 per cent of the emission reductions or removals for project activities achieving a total emission reduction or removal between 300,000 and 500,000 tons of carbon dioxide equivalent per year?	EB82 Report Annex 14 \$361b	DR	N/A	OK	OK
E.4.5.3. 2 per cent of the emission reductions or removals for large-scale project activities achieving a total emission reduction or removal of 300,000 tons of carbon dioxide equivalent per year or less?	EB82 Report Annex 14 \$361c	DR	N/A	OK	OK
E.4.5.4. 5 per cent of the emission reductions or removals for small-scale project activities other than project activities covered under E.4.6.5 below?	EB82 Report Annex 14 \$361d	DR	N/A	OK	OK
E.4.5.5. 10 per cent of the emission reductions or removals for the microscale project activities?	EB82 Report Annex 14 \$361e	DR	N/A	OK	OK
5.5. Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD					
5.5.1. Has a comparison of actual values of the GHG emission reductions or net anthropogenic GHG removal of the project activity achieved during the monitoring period with the estimations in the registered CDM-PDD been given under section E.5 of the MR?	CDM-MR-FORM version 7.0 EB82 Report Annex 13 \$256	DR	The proper format of the monitoring report is to be followed and the corrected values along with justification is to be provided.	CAR-17	OK
5.5.2. If the comparison of actual values of the GHG emission reductions or net anthropogenic GHG removal of the project activity achieved during the monitoring period with the estimations in the registered CDM-PDD is given under section E.5 of the MR, has this comparison been given using the tabular format provided?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-17	OK
5.6. Remarks on difference from estimated value in registered PDD					

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
5.6.1. Has an explanation of the cause of any increase in the actual emission reductions achieved during the current monitoring period (e.g. higher water availability, higher load plant factor, etc.), including all information (i.e. data and/or parameters) that is different from that stated in the registered CDM-PDD, been provided under section E.6 of the MR?	CDM-MR-FORM version 7.0	DR	Refer to CAR above	CAR-17	OK
5.7. Actual emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards					
5.7.1. If the monitoring period starts before 31 December 2012 and ends anytime thereafter, has actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved for the following two periods been provided under section E.7 of MR?	CDM-MR-FORM version 7.0 EB82 Report Annex 13 §254	DR	N/A	OK	OK
E.7.1.1. Up to 31 December 2012 (1st commitment period); and	CDM-MR-FORM version 7.0 EB82 Report Annex 13 §254a	DR	N/A	OK	OK
E.7.1.2. From 1 January 2013 onwards	CDM-MR-FORM version 7.0 EB82 Report Annex 13 §254a	DR	N/A	OK	OK
E.7.2. If the monitoring period starts before 31 December 2012 and ends anytime thereafter and the annual caps are applied in the GHG emission reduction or net anthropogenic GHG removal' calculations, has the annual caps been pro-rated to each period?	CDM-MR-FORM version 7.0 EB82 Report Annex 13 §254b	DR	N/A	OK	OK
F. Other Requirements					

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
F.1. Forward action requests (FARs) identified during validation and/or previous verification					
G.1.1. Is there any remaining FARs from the validation and/or previous verification activities?	EB82 Report Annex 14 \$28 \$379	DR, SV	The previous 2nd periodic verification report does not present any FAR. However, there was one FAR raised by GS during the 3-week issuance review period, as follows: Forward Action Request #1: The verifying DOE shall confirm that the temperature of the gaseous stream is in compliance with the requirements of dry basis used to calculate the mass flow of GHG in the gaseous stream. The check of temperature data indicates compliance with the requirement. The LFG temperature is below 60 deg. C during this monitoring preiod.	OK	OK
G.1.2. If there any remaining FARs from the validation and/or previous verification activities, have the PPs addressed these FARs in the MR?	EB82 Report Annex 14 \$28 \$379	DR	N/A	OK	OK
G.1.3. Has the FARs been resolved?	EB82 Report Annex 14 \$28 \$379 \$376d	DR	Yes	OK	OK
Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
Appendix-1 Contact information of project participants and responsible persons/ entities					
1. Is the contact information of PPs listed in Section A.3 of monitoring report provided in Appendix 1?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV=Site Visit

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
2. Is the contact information of responsible person/entity for application of the selected methodology(ies) and, where applicable, the selected standardized baselines to the project activity provided in Appendix 1?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK
3. Is it indicated whether the person(s)/ entity(ies) responsible for the application of the selected methodology(ies) and, where applicable, the selected standardized baseline(s) to the project activity is a PP?	CDM-MR-FORM version 7.0	DR	Yes	OK	OK

Table 2 – Additional Gold Standard Requirements (In the Reference section, Gold Standard references are given by stating T for the Toolkit and R for the Requirements and the section number. All references given are from Gold Standard Toolkit Version 2.2 unless otherwise stated)

Question	Reference	Means of verification *	Findings, comments, references and document sources	Draft opinion	Final opinion
1. Has the host country implemented a cap on its GHG emissions, after the registration of the project activity?	T 1.2.2	DR	N/A	OK	OK
2. If the host country implemented a cap on its GHG emissions after the registration of the project activity, has a proof of retirement of an equal amount of allowances been submitted by the project owners?	T 1.2.7	DR	N/A	OK	OK
3. Has there been any grievances raised by the local stakeholders?	T 4.5	DR, SV	During the site visit, the DOE conducted interviews with the local stakeholders. There hasn't been any complaint raised during the interviews with the Asagıavdan villagers. However, the document regarding the contact details of the responsible staff within the context of PP in case of any complaint shall be provided.	CL-1	OK
4. If there are any grievances raised by the local stakeholders, has the PPs responded clearly to these comments?	T 4.5	SV	Refer to CL above	CL-1	OK
5. Are all the SD monitoring parameters included and the supporting documents submitted.	-	DR, SV	Please submit the documents pertaining to all the sustainability monitoring parameters for the covered period. The values for the SD indicators in the current situation of the parameter also needs to be corrected based on the issues pointed out in the previous corrective action requests.	CL-2, CAR-18	OK

*DR= Document Review, I= Interview, SV=Site Visit

Table 3 – Resolution of Corrective Action, Forward Action and Clarification Requests

Draft Report Clarifications, Forward Action and Corrective Action Requests By Verification Team	Ref. to Checklist Questions in Table-1 and Table-2	Summary of Project Participants' Response	Verification Team Conclusion								
CAR-1 The estimated amount of GHG emission reductions for this monitoring period in the registered PDD has not been correctly presented.	Table 1, 1.10	Response 1: The PDD estimation has been presented on section B.6.4 of PDD. The PDD estimation was prepared through 3.6 MW capacity. Estimated amount of GHG emissions has been revised through actual capacities and days of the monitoring period. Please see Total ER section of the ER_Calculation sheet. If the days or capacities are not applicable or PP needs to write PDD estimation without not calculating actual dates and capacities please define the which is wrong. Response 2: The revision and explanation has been added accordingly. Response 3: The values are taken from PDD Section A.4.4. without applying any design change revision. <table><tr><th>YEAR</th><th>PDD ER Est</th></tr><tr><td>2016</td><td></td></tr><tr><td>2017</td><td></td></tr><tr><td>Until 01/06/2018 (PDD)</td><td></td></tr></table>	YEAR	PDD ER Est	2016		2017		Until 01/06/2018 (PDD)		Review-1: The ex-ante estimate as in the PDD corresponding to the monitoring period is to be presented without accounting for the implementation changes in the design. Further, the justification of any change of actual as against design are to be provided in section E.5 and E.6. Review-2: The ex-ante estimate is still not presented correctly and consistently in the MR. The ex-ante estimate should correspond to the values as estimated in the PDD accounting for the monitoring period. Further, no changes to the capacity as resulting from design change are to be included in the presentation of ex-ante estimate, unless this had been done through design change approval and with a revised corresponding PDD. Review-3: The ex-ante estimate is still not presented correctly. Please note that the monitoring period start date is 16/04/2016 so the 2016 value should be apportioned appropriately. Also, the monitoring period end date is 08/02/2018, so here too the numbers are to be correctly accounted. Alternately, based on the annual average estimate over the crediting period in the PDD and accounting for the number of days of the monitoring period the estimate for the monitoring period could be
YEAR	PDD ER Est										
2016											
2017											
Until 01/06/2018 (PDD)											

* CAR= Corrective Action Request, FAR= Forward Action Request, CL= Clarification Request

Draft Report Clarifications, Forward Action and Corrective Action Requests By Verification Team	Ref. to Checklist Questions in Table-1 and Table-2	Summary of Project Participants' Response		Verification Team Conclusion
		GHG removals estimated ex ante for this monitoring period in the PDD is line with the PDD section A.4.4. As you see no design change revision has been applied to PDD estimation. Please clarify what is the missing point. 193,069 tCO ₂ e has used as PDD estimation from section A.4.4. Approved PDD submitted to DOE again. Response 4: The PDD estimation has been corrected as 137,036 tCO ₂ e through the monitoring period.	Review-4: OK Closed	
CAR-2 The emission reductions achieved during the 3rd monitoring period is not stated correctly and is to be revised. Further, round-down function to be applied in the ER calculation for each vintage.	Table 1, 1.11	Response 1: The ER values have rounded down for each vintage. The ER has been revised as 295,172 tCO ₂ e. Response 2: The revision and explanation has been added accordingly. Response 3: The ER values re-checked and revised.	Review-1: The emission reduction values are to be corrected following the open subsequent CARs. Review-2: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-3: The emission reduction calculations have not been	

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Draft Report Clarifications, Forward Action and Corrective Action Requests By Verification Team	Ref. to Checklist Questions in Table-1 and Table-2	Summary of Project Participants' Response	Verification Team Conclusion
		Response 4: The has revised as 284,303 tCO₂e through subsequent CARs. Response 5: The ER values re-checked and revised as 285,189 tCO₂e. Response 6: The ER values re-checked and revised as 288,074 tCO₂e.	performed correctly, as reflected in the subsequent CARs. Review-4: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-5: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-6: Ok Closed
CAR-3 As the current monitoring period is after 31 December 2012, therefore the value in the associated cell is to be corrected.	Table 1, 1.12	Response 1: The ER has been revised as 295,172 tCO₂e. (after 1 January 2013) Response 2: The revision and explanation has been added accordingly. Response 3: The ER values re-checked and revised. Response 4: The has revised as 284,303 tCO₂e through subsequent CARs.	Review-1 The emission reduction values are to be corrected following the open subsequent CARs. Review-2: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-3: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-4:

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Draft Report Clarifications, Forward Action and Corrective Action Requests By Verification Team		Ref. to Checklist Questions in Table-1 and Table-2	Summary of Project Participants' Response	Verification Team Conclusion
CAR-4	The most recent version of the monitoring report form has not been used.	Table 1, 2	Response 1: The most recent version has been used now.	Review-1: Ok Closed
CAR-5	a) As per the earlier registered PDD and the last performed 2 nd periodic verification, the electricity generation capacity was indicated as 4.8 MW, whereas the PDD submitted for renewal indicates a capacity of 8.4 MW. Please clarify the dates of commissioning of each engine separately and also indicate the capacity to be considered for this monitoring period, accounting for the design change approval from GS. b) It is noticed that the project has biogas application too, but it is not added to project boundary, although it blends in the same pipe	Table 1, A.1.1	Response 1: a) The proposed activity involves the collection and utilization of the landfill gas that is generated at the Samsun landfill site, Turkey, to generate electricity with an installed capacity starting with 2.4 MWe and reaching 4.8 MWe throughout the initial investment . The capacity increased to 8.4 MWe on dd. 24/03/2016 on the generation licence. In 2017, the province established and operated a landfill site. The details were already prented on timeline as below;	a) Based on the description provided, it is inferred that from 16/04/2016 the start of this 3 rd monitoring period till 02/05/2017 capacity of 4.8 MW is considered, despite the installed capacity being 6 MW (since 27/09/2014). The latter date (02/05/2017) representing 2 years prior to the design change approval from GS i.e., on 02/05/2019. Further, from 03/05/2017 till 08/02/2018 representing the end of the monitoring period (and also the end of first crediting period), capacity of 6 MW is considered. Please confirm. b) The line diagram(Figure 1. Flow chart of the implemented Project) does not provide indication of the biogas stream.

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as of LFG and goes to the engines, this too needs to be clarified.		- License awarded for 2.4 MWe (18.05.2011) - Commissioning Capacity increase to 3.6 MWe - License upgrade (27.09.2013) - Commissioning of the additional capacity (6.0 MWe) (27.09.2014) - Commissioning of the additional capacity (8.4 MWe) (22.05.2018) On 07/05/2014 and 24/03/2016 the Generation License of the Project was amended and the permitted installed capacity was increased to 6.0 MW and then 8.4 MW. It should be noted that the additional 2 gas turbines have generated electricity from 27/09/2014. But generation of only one gas turbine is taken into account until 02/05/2017 and then 6 MW capacity used within the 3rd monitoring period. Because the approved capacity is 4.8 MW for until 03/05/2017 and then 6 MW is used for this 3rd monitoring report. (The project owner has applied to GS for design change and 4W review end date is 02/05/2019) PP produce ERS from design change part maximumly two years prior to GS design change 4W end date (i.e. 03/05/2017 - 02/05/2019) On the other hand, CP2 crediting period start date as 09/02/2018, also indicating that PP cannot claim the ERS during delay period, i.e. 9 Feb 2018 – 4 Sep 2019 of CP2 due to delay in submission of the renewal request. So this 3rd monitoring period is	Review-2: a) Ok Closed b) The figure provided in the MR does not give indication of the biogas. Review-3: The figure and line diagrams provided in the MR does not give clear indication of the biogas injection point and the associated metering arrangements. Review-4: As per the revised line diagram, it is indicated that the flow of biogas is measured and thereafter the methane percentage is analysed. Subsequently, there are flow meters to measure the gas flow to engines and flare respectively. Please confirm. Review-5: OK Closed

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		only include 16/04/2016-08/02/2018 (first and last days included) b) The project also has Biogas application but it is not added to project boundary. The same pipe has biogas and LFG gas. Both LFG and Biogas sides have their own flowmeters. The electricity energy produced from LFG is calculated based on conservative assumptions and measurements. The line diagram which shows biogas application also has been added to monitoring report. It is also approved by DOE during site visit. Response 2: a) Yes this is actual situation. PP confirm this situation. b) Figure 1 has been removed. Line diagram has been added. Response 3: b)Diagram has been revised Biogas Plant has been added. Response 4: The diagram has been revised in detail and provided in Figure 2.	

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CAR-6 Please correct the total emission reductions achieved in the monitoring period.	A.1.5	Response 1: The total emission reductions achieved during monitoring period has been revised accordingly. Response 2: The revision and explanation has been added accordingly. Response 3: The ER values re-checked and revised. Response 4: The has revised as 284,303 tCO₂e through subsequent CARs. Response 5: The ER values re-checked and revised as 285,189 tCO₂e. Response 6: The ER values re-checked and revised as 288,074 tCO₂e.	Review-1: The emission reduction values are to be corrected following the open subsequent CARs. Review-2: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-3: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-4: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs. Review-5: The emission reduction calculations have not been performed correctly, as reflected in the subsequent CARs.

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CAR-7 a) Please clearly indicate the installed equipment, including a diagram. b) Please provide the commissioning dates of the gas engines. c) Please clarify on the make (Jenbacher or Convoco) and details of the flaring unit.	B.1.1	Response 1: a) The diagram has been added to MR b) The commissioning dates provided as below; Phase 1: Capacity 2.4 MWe – 09/03/2012 Phase 2: Capacity 3.6 MWe – 27/09/2013 Phase 3: Capacity 6.0 MWe – 27/09/2014 Phase 4: Capacity 8.4 MWe – 22/05/2018 c) The flare unit brand is Convoco. This information is also added to MR. “Detector coupled with the electronic module installed in the control panel continuously detect flame presence (by UV sensor). If the detector can’t see the flame (and cogeneration engine are in OFF), automatically close the main valve and try to start again the flame with only pilot line. If this operation fail the system automatically shuts down and an alarm appears on the system. The flare state (ON/OFF) is not registered by the system, but the flare state can easily be understood by	Review-6: OK Closed Review-1: a) The line diagram(Figure 1. Flow chart of the implemented Project) does not provide indication of the biogas stream. b) Ok Closed c) Ok Closed Review-2: The line diagram is presented in the MR however, the installed metering equipments are yet not clear, especially in the context of flow and methane content considering the biogas too. Review-3: The figure and line diagrams provided in the MR does not give clear indication of the biogas injection point and the associated metering arrangements. Review-4: OK Closed

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		flare flowrate interpretation.” Response 2: a) Figure 1 has been removed. Line diagram has been added. Response 3: Biogas plant has been added to diagram. Biogas flowmeter also seen in the diagram. Biogas plant is out of the boundary. Biogas measurements and landfill measurements are clearly provided to DOE. The electricity generation revised thorough removing biogas production. The landfill ratio and biogas ratio are provided in excel sheet also generation revised through this ratios. Response 4: The diagram has been revised in detail and provided in Figure 2.	
CAR-8 a) Please clearly indicate the changes in the project design including the additional gas engines and biogas too.	B.2.4.1	Response 1: a) In this monitoring period, the following project design changes have been carried out;	Review-1: The line diagram(Figure 1. Flow chart of the implemented Project) does not provide indication of the biogas stream.

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b) The flow chart of the implemented project needs to be clarified further with the installed measurement instruments.		In the registered monitoring plan, a flow meter device was supposed to be installed for each gas engine that measures flow rate of the landfill gas. There are 5 flow meter devices present in this 3rd monitoring period in e project implementation. One of these flow meters (denoted as FM 1) is installed after the booster (main pipe), another flow meter measures the LFG that goes into the flare (denoted as FM 2), and a third flow meter measures the LFG that goes to the engines (denoted as FM 3) and fourth and fifth flow meter measures the LFG that goes to the engines (denoted as FM 4 and FM 5). On 07/05/2014 and 24/03/2016 the Generation License of the Project was amended and the permitted installed capacity was increased to 6.0 MW and then 8.4 MW. It should be noted that the additional 2 gas turbines have generated electricity from 27/09/2014. But generation of only one gas turbine is taken into account until 02/05/2017 and then 6 MW capacity used within the 3rd monitoring period. Because the approved capacity is 4.8 MW for until 03/05/2017 and then 6 MW is used for this 3rd monitoring report. (The project owner has	Further, it is stated that, 'The project also has Biogas application but it is not added to project boundary. The same pipe has biogas and LFG gas. Both LFG and Biogas sides have their own flowmeters. The electricity energy produced from LFG is calculated based on conservative assumptions and measurements.' However, what conservative assumptions and approach is applied is unclear. Review-2: The line diagram is presented in the MR however, the installed metering equipments are yet not clear, especially in the context of flow and methane content considering the biogas too. Review-3: The figure and line diagrams provided in the MR does not give clear indication of the biogas injection point and the associated metering arrangements. Review-4: OK Closed

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		applied to GS for design change and 4W review end date is 02/05/2019) PP produce ERs from design change part maximumly two years prior to GS design change 4W end date (i.e. 03/05/2017 - 02/05/2019) On the other hand, CP2 crediting period start date as 09/02/2018, also indicating that PP cannot claim the ERs during delay period, i.e. 9 Feb 2018 – 4 Sep 2019 of CP2 due to delay in submission of the renewal request. So this 3rd monitoring period is only include 16/04/2016-08/02/2018 (first and last days included) b) The diagrams are added to monitoring report and also provided to DOE. Response 1: a) Conservativeness means is the Biogas and LFG has own meters. This is also approved during site visit by DOE. Response 3: Biogas plant has been added to diagram. Biogas flowmeter also seen in the diagram. Biogas plant is out of the boundary. Biogas measurements and landfill measurements are clearly provided to DOE. The electricity generation revised thorough	

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CAR-9 The increase in LFG destruction and associated electricity generation need to be clearly presented as the actual changes affecting the implementation of the project activity.	B.2.4.2	removing biogas production. The landfill ratio and biogas ratio are provided in excel sheet also generation revised through this ratios. Response 4: The diagram has been revised in detail and provided pn Figure 2. Response 1: The increase on LFG destruction caused by the project efficiency increases. Response 2: Section B.2.6 has been revised as below; a) The expected disposed waste amount was 182,500 tonnes, corresponding to an average of 500 t/day. The capacity increased to 6.0 MWe on dd. 27.09.2014. After the capacity increase amount of the waste is planned to be 228,125 tonnes, corresponding to an average of 625 t/day. Calculations are based on the capacities and waste amounts.	Review-1: The actual changes affecting the implementation of the project activity is not indicated in section B of the MR. Review-2: Ok Closed
CAR-10 The changes impacting the operation and monitoring of the project activity needs to be clearly depicted.	B.2.4.3	Response 1: In the registered monitoring plan, a flow meter device was supposed to be installed for each gas engine that measures flow rate of the landfill gas. There are 5 flow meter devices present in this 3rd	Review-1: Please clearly depict how the following has been addressed: a) The design change for the capacity to be considered as against the installed capacity for the period

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		monitoring period in e project implementation. One of these flow meters (denoted as FM 1) is installed after the booster (main pipe), another flow meter measures the LFG that goes into the flare (denoted as FM 2), and a third flow meter measures the LFG that goes to the engines (denoted as FM 3) and fourth and fifth flow meter measures the LFG that goes to the engines (denoted as FM 4 and FM 5). On 07/05/2014 and 24/03/2016 the Generation License of the Project was amended and the permitted installed capacity was increased to 6.0 MW and then 8.4 MW. It should be noted that the additional 2 gas turbines have generated electricity from 27/09/2014. But generation of only one gas turbine is taken into account until 02/05/2017 and then 6 MW capacity used within the 3rd monitoring period. Because the approved capacity is 4.8 MW for until 03/05/2017 and then 6 MW is used for this 3rd monitoring report. (The project owner has applied to GS for design change and 4W review end date is 02/05/2019) PP produce ERs from design change part maximumly two years prior to GS design change 4W end date (i.e. 03/05/2017 -	16/04/2016 to 02/05/2017; b) How the biogas share is discounted from methane destruction; and c) How the biogas share is discounted from electricity generation. Review-2: a) OK Closed b) Please clarify why the methane content for the respective vintage has not been considered for the calculation of methane destruction. Further, although flow landfill is considered for methane destruction, however, it is yet not clear why the value of: flow engine = flow biogas + flow landfill + flare Furthermore, the Peflare has not been calculated correctly with reference to the indicated formula. c) It is unclear how the biogas has been discounted from the electricity generation. Review-3: a) OK Closed b) The response provided is unclear as to how it addresses the comment. c) Please also refer to the response during the renewal of the crediting period regarding discounting for the biogas. Review-4:

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		02/05/2019) On the other hand, CP2 crediting period start date as 09/02/2018, also indicating that PP cannot claim the ERs during delay period, i.e. 9 Feb 2018 – 4 Sep 2019 of CP2 due to delay in submission of the renewal request. So this 3rd monitoring period is only include 16/04/2016-08/02/2018 (first and last days included) This descriptions are added to MR accordingly. Response 2: 1. The expected disposed waste amount was 182,500 tonnes, corresponding to an average of 500 t/day. The capacity increased to 6.0 MWe on dd. 27.09.2014. After the capacity increase amount of the waste is planned to be 228,125 tonnes, corresponding to an average of 625 t/day. 2. Biogas and LFG has own meters. This is also approved during site visit by DOE. 3. Biogas values are not determined and added in calculations. Response 3:	a) Ok Closed b) The calculation of 'Flow Landfill' is incorrect with the associated line diagram indication of flow-meters. As per the line diagram, the methane destruction in the engines would be based on FM1 reading and discounting of biogas would get done based on FM3 reading. c) The ratio of landfill gas to total gas is to be correctly and conservatively applied as 1 – (FM3/FM1) Review-5: a) Ok Closed b) The calculation of 'MDelectricity,y' is incorrect as biogas value is getting discounted twice. Further, also clarify that for conservativeness the methane content in biogas is considered as 100%, as used in the formula. c) The ratio of landfill gas to total gas is to be correctly using column O instead of column R from the tab 'BIO16.04.2016' Review-6: Ok Closed

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		b) Biogas not included to project boundary and the estimation for ER from biogas is so small. PP don't choice to add Biogas to project boundary. Only landfill gas electricity generation and methane destruction has been used for the calculations. If there is a problem not choosing to add biogas to the boundary please define clearly. c) The electricity generation revised thorough removing biogas production. The landfill ratio and biogas ratio are provided in excel sheet also generation revised through this ratios. Response 4: b) Flow Landfill = Total Gas (FM#1 AAL3824F) – Flow Biogas (FM#3 AGF1583F) – Flow Flare (FM#2 AAL3829F) Details can be seen the diagram of the project.(Figure 2) a) In the registered monitoring plan, a flow meter device was supposed to be installed for each gas engine that measures flow rate of the landfill gas. There are 5 flow meter units devices present in this 3rd monitoring period in the project	

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		implementation. One of these flow metersunits (denoted as FM 1, serial number AAL3824F) is installed after the booster (main pipe), another flow meterunit measures the LFG that goes into the flare (denoted as FM 2, serial number AAL3829F), and a third flow meterunit measures which would measure the LFG that goes to the engines (denoted as FM 3, is not installed at the planned location) and fourth and fifth flow meter measures the LFG that goes to the engines (denoted as FM 4 and FM 5) are not installed The main reason for not installing separate flowmeter units for each gas engine is only commercial. In addition to landfill gas, biogas is also produced on site and this total gas is collected with the same booster unit. FM1 measures Landfill gas plus Biogas. In order to comply with project boundaries biogas production is measured separately to enable the deduction of the biogas from the total gas. Flow meter unit 3 (serial number AGF1583F) is implemented for this purpose as per Figure 2. Response 5: b) The calculation of 'Flow Landfill' is correct with	

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		the associated line diagram indication of flow-meters now. c) The ratio of landfill gas to total gas is to be correctly and conservatively applied as 1 – (FM3/FM1). These details can be seen in the BIO page of excel sheet. Response 6: b) The calculation of 'MDelectricity,y' is corrected now. Yes we take the methane content in biogas is considered as 100% for conservativeness in the formula. c) The ratio of landfill gas to total gas is revied and it is using column O instead of column R from the tab 'BIO16.04.2016' now.	
CAR-11 For the methane destruction component, it is stated that 'Data handling: For the PLC system data that are corrupted or missing, a deviation from the registered monitoring plan is presented in Section B.2.3.' The reference and description is to be corrected.	C.2	Response 1: The description has been revised as "For the PLC system data that are corrupted or missing".	Review-1: Ok Closed
CAR-12 The line diagram showing all relevant monitoring	C.6	Response 1: The line diagram has been added. Also electricity	Review-1: The line diagram does not provide indication of the

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points is to be provided in section C of the MR.		meters and flow meters details are added. Response 2: Figure 1 has been removed. Line diagram has been added. Response 3: b)Diagram has been revised Biogas Plant has beenb added. Response 4: The diagram has been revised in detail and provided pn Figure 2.	biogas stream. Review-2: The line diagram is presented in the MR however, the installed metering equipments are yet not clear, especially in the context of flow and methane content considering the biogas too. Review-3: The figure and line diagrams provided in the MR does not give clear indication of the biogas injection point and the associated metering arrangements. Review-4: OK Closed
CAR-13 The values of the monitoring parameters are not stated correctly, for the following: a) Net amount of electricity supplied to the grid by the project – Proper appropriation for the capacity to be considered during the monitoring period, accounting for the design change has not been done. Further, appropriation for the electricity consumed from the grid should not be applied.	D.2.6	Response 1: a) All details are already presented electricity generation section of the ER Excel sheet. Generation values are applied for 4.8 MW capacity and 6 MW capacity. Also consumptions are applied through these capacities. Please define if there was any missing part on calculations. b) In case of blackouts, the diesel generator owned by the Municipality at the landfill site provides power to the landfill and also	Review-1: a) Please state the actual values as indicated in the source and cross-check document before applying the apportioning. b) OK Closed c) The values are to be corrected, as indicated in the subsequent CAR too, the flow engine is found to be summation of flow biogas + flow landfill + flare. d) The response does not clarify about the methane fraction in the landfill gas.

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Furthermore, electricity supplied to the grid and electricity consumed from the grid has to be explicitly presented vintage wise. Also, the basis for arriving at the value for 04/2016 and 02/2018 is to be clarified. b) Project emissions from fossil fuel combustion – It needs to be clearly indicated if there has (not) been any consumption of fossil fuel during the monitoring period. c) Amount of landfill gas – The total landfill gas, LFG to the engines, LFG to the flare and the amount of biogas too injected in the system is to be clearly presented. Further, it is indicated that the 'Total methane mass flow in the residual gas over the crediting period is 10,344 ton of CH₄'. The description and the value are to be corrected for this statement. d) Methane fraction in the landfill gas – The percentage of methane in the LFG needs to be clearly presented vintage wise. Also, it needs to be clarified that this is before/after the biogas injection. e) Project emissions from flaring of the residual gas – The value of the project emissions is to be checked and corrected. f) Operation of the power plant – Owing to the design change, the operational hours are to be presented for the different engines and vintage wise, accounting for the design change		to the offices of the Project for daily use purposes. So it is negligible thorough the methodology. c) The project also has Biogas application but it is not added to project boundary. The same pipe has biogas and LFG gas. Both LFG and Biogas sides have their own flowmeters. d) The project has Biogas application but it is not added to project boundary. The same pipe has biogas and LFG gas. Both LFG and Biogas sides have their own flowmeters. e) The 2016,2017 and 2018 CH₄ percentages are added in Methane destruction of the ER Excel sheet. This is before Biogas injection. f) Operation hours of the engines are provided to DOE. Also it is already provided in ER excel sheet BIO16.04.2016 section and MR. g) The flare efficiency has taken as "0". h) The calculation methodology of the error margin assumes a confidence level of 99.9%, which is statistically quite high and in agreement with the CDM requirements. Therefore, to account for this error margin, the emission reductions resulting from LFGflare,y should be adjusted by	e) No apportioning is to be done for the calculation of project emissions from flaring of the residual gas. Further, the factor of 1000 being applied for conversion from tCH₄ to tCO₂ (apart from GWP of 25) is incorrect. f) The response does not address the issue raised. Further, the data is not found in the referred excel sheet. g) OK Closed h) OK Closed Review-2: a) The reference was in context of electricity generation. c) Although flow landfill is considered for methane destruction, however, it is yet not clear why the value of: flow engine = flow biogas + flow landfill + flare d) Methane content for the respective vintage is to be considered for the calculation instead of the overall average for the monitoring period. e) The calculation of project emissions from flaring is yet not correct as the flow does not account for methane percentage. f) The units and presentation of the operational hours is to be corrected. Review-3:

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g) Temperature in the exhaust gas of the enclosed flare in minute m – The values have not been provided. If the temperature is not measured or is below 500 deg. C and/or the flame detection is not operational, the flare efficiency is to be taken as zero. h) Correction factor for error margin – The basis for application of the correction factor is to be clarified along with the derivation of the value.		deducting 0.86% of MDFlare.y. However, to be on the safe side and to prevent any over-calculation, the Project Participant has rounded up this correction factor to 1%, Response 2: a) The municipality weighbridge values has been seen by DOE during site visit. This is the cross check way. b) – c) The flow engine has determined as requested already as flow biogas + flow landfill + flare. For example 2018 year; The flow engine total: 2,477,155 m3 Flow Biogas: 21,972 m3 Flow Landfill: 2,445,387 m3 Flare:9,755 m3 Biogas values removed from the calculations. The flow engine determined as; Flow Landfill Flare has determined as project emission. d) Methane fraction percentage ise before biogas. This is also confirmed during site visit. The percentages are provided in ER Excel sheet. e) The calculation has been revised	a) The cross-check PMUM stated in the tab 'Electricity generation' of the excel sheet is presented as a computed value. Please present the value as in the source PMUM document before applying the apportioning. c) The response provided yet not clarifies as to why the value of: flow engine = flow biogas + flow landfill + flare d) OK. e) OK. f) OK Review-4: a) The values as per EPIAS records for the respective months are: May 2017 is 3456.057; Oct 2017 is 4235.652. These are to be corrected in the ER sheet. Further, the EPIAS record for April 2016 along with daily data too is to be submitted. c) The calculated flow values in column R of the tab 'BIO16.04.2016' are to be corrected. Review-5: OK Closed

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		f) The engines operational hours are added according. ER excel sheet. Response 3: a) The refence of cross check is related to methane destruction . The flowmeters are the only metering documents. There is not any other method for cross checking. The waste values and electricity generation values are the best way for cross check. Also there is not a legal reuirement for the landfill and flare m3 for monitoring. c)Biogas not included to project boundary and the estimation for ER from biogas is so small. PP don't choice to add Biogas to project boundary. Only landfill gas electricity generation and methane destruction has been used for the calculations.. Only flow landfill has been used for this reasons. d)Revised accordingly. e) Revised accordingly. The project emission from flaring calculated by adding methane percentage yearly. Nflare has accepted as %0 because there is not any measurement. f) The working hours unit is presented as	

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		hour in PDD and excel sheet. Response 4: a) The electricity generation section in excel sheet has been revised. The pure production and consumption values are provided through records. On the other hand final calculation has been performed through the capacity of the project activity. b) - c) The wrong values has been corrected. Flow Landfill = Total Gas (FM#1 AAL3824F) – Flow Biogas (FM#3 AGF1583F) – Flow Flare (FM#2 AAL3829F) Response 5: a) May 2017 is 3,456,85 MWh as stated in OSF form. <table><tr><td>1430000.000</td></tr><tr><td>0.000</td></tr><tr><td>3456847.800</td></tr><tr><td>88.200</td></tr></table> Please also see F column for calculation until 2 May for 4,8 MW capacity. This is the formula for calculation;	1430000.000	0.000	3456847.800	88.200	
1430000.000							
0.000							
3456847.800							
88.200							

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		$((112209,3+111283,2)/1000)*(3,6/4,8)+(3233,2671)$ October 2017 value is re-checked again and mistake has been corrected. October 2017 has two OSF form. The first one is old meter and the second one is for new meter. The value is; 3084851,7 Kwh +1151992,8Kwh = 4,236,840 Kwh May 2017 , October 2017 and April 2016 OSF forms provided again.	
CAR-14 a) The details about accuracy class, calibration frequency, serial number, calibration date(s), and validity of calibration are to be provided for all the relevant measurement instruments, covering the monitoring period. b) The details for the KÖHLER make electricity meter are missing. c) The associated calibration records for all the relevant measuring instruments apart from the electricity meters too are to be submitted.	D.2.8	a) The provided monitoring equipments details are provided in MR under section C. The electricity meters and flow meters details are provided. b) The details are already provided in MR as below; <u>13000893* (changed on 04/10/2017)</u> <u>AEL.TF11</u> <u>KÖHLER (main) 0.5S 04.10.2017</u> If any additional information is needed please define which information you need without accuracy class, brand, model, serial number and calibration date. c) The all calibration records are provided.	Review-1: Ok Closed
CAR-15 a) The grid emission factor has been stated incorrectly as 0.6010 tCO ₂ /MWh in section E.1 as against the value of 0.559 tCO ₂ /MWh.	5.1.2	Response 1: a) Corrected. b) Revised accordingly. c) Table 13 has been corrected.	Review-1 a) Ok Closed b) Ok Closed c) Ok Closed

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b) The appropriation for the design change is to be corrected and accordingly the calculated values are to be revised. The electricity consumption from the grid should not be apportioned. c) The representation with decimal and comma too is to be corrected in table 13. d) For the methane destruction component, the computation of methane destroyed by flaring is unclear, as the exhaust temperature data and the specifications of the flare device being met are not presented. e) The project emissions from flare are also not presented correctly.		d) The related specifications already provided in PDD and ER calculation sheet in detail. e) Please see methane destruction section of ER calculation sheet. The calculations are line with the Project emissions from flaring, v.02.0.0 and registered PDD and also previous MR. Response 2: d. Efficiency has accepted as zero and flaring determined as project emission. e. Project emission has been revised. Review 3: Project emission calculation has been revised.	d) As the flare temperature has not been monitored and as previously indicated that the flare efficiency is being taken as zero therefore there cannot be any methane destruction by flaring, rather these should appear as project emissions. e) Please correct the project emissions. Reference to previous MR is not a valid reasoning. Review-2: d) Ok Closed e) Project emission calculations are to be corrected. Review-3: Ok Closed
CAR-16 a) The spreadsheet presented indicates that the columns flow engine, flow biogas, flow landfill and flare. These columns are to be explained. b) Looking at the numbers, it appears that the value of flow engine is a summation of the rest three columns. Please clarify and correct accordingly. c) The spreadsheet is also to be corrected for the vintage wise presentation and proper apportioning as indicated in the previous	5.1.3	Response 1: a) Flow engine: Flare + LFG b) Flow engine values has been used for ER. Flare has been used for project emission from flaring. c) Revised accordingly. Response 2: a) Flow engine has determined only LFG. b) Flaring determined as project emission. c) ER excel sheet and MR revised accordingly.	Review-1: a) The response is unclear and incorrect too. How is the flow engine expected to be summation of flare + LFG? b) The flow engine is found to be summation of flow biogas + flow landfill + flare. Further, practically too the summation of flowmeters is unlikely to match. Please clarify and correct accordingly. c) The corrections in the spreadsheets are still due. Review-2: a) Response does not address the comment raised.

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corrective action requests.		Response 3: a) For electricity generation only landfill flow has been used. MR and excel sheet revised accordingly. b) The electricity generation revised thorough removing biogas production. The landfill ratio and biogas ratio are provided in excel sheet also generation revised through this ratios. c) MR and excelsheet revised accordingly. Response 4: a) The wrong values has been corrected. Flow Landfill = Total Gas (FM#1 AAL3824F) – Flow Biogas (FM#3 AGF1583F) – Flow Flare (FM#2 AAL3829F) b) The wrong values has been corrected. Flow Landfill = Total Gas (FM#1 AAL3824F) – Flow Biogas (FM#3 AGF1583F) – Flow Flare (FM#2 AAL3829F) c) The excel sheet has been revised accordingly. Response 5:	b) Response does not address the comment raised. c) Corrections needed in the MR and ER sheets. Review-3: a) Response yet does not address the comment raised. b) Response yet does not address the comment raised. c) Corrections still needed in the MR and ER sheets. Review-4: a) Ok b) The calculations are to be corrected. c) Corrections still needed in the MR and ER sheets. Review-5: a) OK b) OK. c) Corrections still needed in the MR and ER sheets.

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		b)The wrong values has been corrected. Flow Landfill = Engine Gas (FM#1 AAL3824F) – Flow Biogas (FM#3 AGF1583F) + Flow Flare (FM#2 AAL3829F) c)The MR and excel sheet have been revised accordingly. Response 6: c) The MR and excel sheet have been revised accordingly	
CAR-17 The proper format of the monitoring report is to be followed and the corrected values along with justification is to be provided.	5.5.1	Response 1: The MR has been revised accordingly. Response 2: E.4 and E.5 revised accordingly. Response 3: Revised accordingly. Response 4: Section E.4 and E.5 has been revised. Response 5: The MR has been revised accordingly. Response 6:	Review-1: Section E.4 and E.5 of the MR are empty. Review-2: The values in the sections are to be corrected. Review-3: The values in the sections are still to be corrected. Review-4: The values in the sections are to be corrected based on earlier comments. Review-5: The values in the sections are to be corrected based on

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CAR-18 The values for the SD indicators in the current situation of the parameter also need to be corrected based on the issues pointed out in the previous corrective action requests.	Table-2, 5	The MR has been revised accordingly. Response 1: The new version of the MR has been provided through revisions. Response 2: Revised accordingly. Response 3: Revised accordingly. Response 4: Revised accordingly. Response 5: The SD indicators have been revised accordingly	earlier comments. Review-6: OK Closed Review-1: Based on corrections still due for the previous points, the SD indicators too need correction. Review-2: Based on corrections still due for the previous points, the SD indicators too need correction. Review-3: Based on corrections still due for the previous points, the SD indicators too need correction. Review-4: Based on corrections still due for the previous points, the SD indicators too need correction. Review-5: OK Closed
CL-1 During the site visit, the DOE conducted interviews with the local stakeholders. There hasn't been any	Table-2, 3	Response 1: The responsible person is Mr. Erol Arler who is project owner for complaints. And DOE has talked	Review-1: OK Closed

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complaint raised during the interviews with the Asağlavdan villagers. However, the document regarding the contact details of the responsible staff within the context of PP in case of any complaint shall be provided.		with muchtar and the other stakeholders and sae the grievance mechanism log book which can be no negative feedback on it. The related photos have been provideden to the DOE.	
CL-2 Please submit the documents pertaining to all the sustainability monitoring parameters for the covered period.	Table-2, 5	Response 1: The records are provided to DOE.	Review-1: OK Closed

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