



GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) VERIFICATION REPORT

PROJECT TITLE: SUZHOU QIZI MOUNTAIN LANDFILL GAS
RECOVERY PROJECT

GOLD STANDARD PROJECT No.: 397

CLIENT NAME: SOUTH POLE CARBON ASSET MANAGEMENT LTD

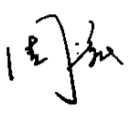
VERSION AND DATE: VERSION 1.1, 18/01/2021

CHINA CERTIFICATION CENTER, INC.

Floor 6 Taiji Commercial Building, No. 211 Beisihuan Zhonglu, Haidian District, Beijing, P.R. China

Project Name: Suzhou Qizi Mountain Landfill Gas Recovery Project							
Certification body: China Certification Center, Inc.							
Client: South Pole Carbon Asset Management Ltd.							
Date of this revision: 18/01/2021	Version No.: Version 1.1						
Gold Standard Project No.: 397	Methodology Applied: ACM0001 "Flaring or use of landfill gas" Version 16.0						
Monitoring Period: 01/04/2018-31/07/2020 (first and last days included)							
Verification Summary: China Certification Center, Inc. (CCCI) has performed the periodic verification of Suzhou Qizi Mountain Landfill Gas Recovery Project (hereafter referred as 'the Project'), GS Project Number 397, covering the monitoring period 01/04/2018-31/07/2020. The verification was performed on the basis of GS4GG criteria, UNFCCC Methodology ACM0001 "Flaring or use of landfill gas" Version 16.0, and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. The verification consisted of the following three phases: i) desk review of the project design, monitoring report and additional background documents; ii) on-site inspection and follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. CCCI has verified the project Monitoring Report Version 2.0 05/01/2021 /2/ for the monitoring period as indicated above. CCCI confirms that the Project is implemented as described in the registered Project Design Document for Gold Standard for the Global Goals Voluntary Offset projects and its transition annex. Installed equipment being essential for generating emission reductions run reliably and are calibrated appropriately. The monitoring system is in place and the Project is generating GHG emission reductions as a GSVER project. CCCI can confirm that the SDG impact are calculated without material misstatements. Our opinion relates to the Projects' SDG impact reported and related to the validated and registered project baseline, monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to guarantee that SDG impact are appropriately calculated, CCCI confirms the following statement <table border="1" data-bbox="427 1344 1203 1682"> <tr> <td>SDG13 – GHG Emission reduction impacts during this monitoring period 01/04/2018-31/07/2020</td><td>317,242 tCO₂e</td></tr> <tr> <td>SDG 7 – Renewable energy generated during this monitoring period 01/04/2018-31/07/2020</td><td>53,601MWh</td></tr> <tr> <td>SDG 8 – Number of jobs created</td><td>7</td></tr> </table>		SDG13 – GHG Emission reduction impacts during this monitoring period 01/04/2018-31/07/2020	317,242 tCO ₂ e	SDG 7 – Renewable energy generated during this monitoring period 01/04/2018-31/07/2020	53,601MWh	SDG 8 – Number of jobs created	7
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SDG 8 – Number of jobs created	7						



Work carried out by:	Team Leader: Mr. Stefan Liang
Technical Review by:	Ms. Ying Li
Name, position and signature of the approver of the verification and certification report	Mr. Zhou Hong, Director of GHG Department 

Abbreviations

BE	Baseline emissions
CAR	Corrective Action Request
CCCI	China Certification Center, Inc.
CDM	Clean Development Mechanism
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
DNA	Designated National Authority
EF	Emission factor
ETN	Electricity Transaction Note
FAR	Forward Action Request
GHG	Green House Gas(es)
GS4GG	Gold Standard for the Global Goals
IPCC	Intergovernmental Panel on Climate Change
LE	Leakage emissions
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring report
PDD	Project Design Document
PP	Project Participant
PPA	Power Purchase Agreement
SD	Sustainable Development
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Verification and Verification Standard

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1. INTRODUCTION

South Pole Carbon Asset Management Ltd. has commissioned CCCI to verify the emission reductions of the GS project “Suzhou Qizi Mountain Landfill Gas Recovery Project”, for the monitoring period from 01/04/2018-31/07/2020, located in China.

This report summarizes the findings of the verification of the Project, performed on the basis of Gold Standard for the Global Goals (GS4GG) requirements, UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1. Objective

The objective of the verification is to provide a thorough and independent third party assessment of the registered project activity. In particular, the assessment shall:

- (a) Ensure that all sustainability development (SD) indicators and mitigation measures have been monitored and implemented in accordance with the registered PDD and transition annex;
- (b) Ensure that the project activity has been implemented and operated as per the registered PDD or any approved revised PDD, and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- (c) Ensure that the monitoring report and other supporting documents provided are complete in accordance with the latest applicable version of the completeness checklist for requests for issuance of GHG emission reductions and verifiable and in accordance with applicable GS4GG requirements;
- (d) Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan or any revised approved monitoring plan, and the approved methodology including applicable tool(s);
- (e) Evaluate both quantitative and qualitative information on emission reductions provided in the project documentation;
- (f) Evaluate the data collection system meets the requirements of the monitoring plan as per the applied methodology including applicable tool(s) and, where applicable, the applied standardized baseline.

1.2. Scope

The verification scope covers the relevant documents (e.g. the registered PDD including sustainable development requirements, the transition annex, the Monitoring Report, the emission reduction calculation spreadsheet, supporting documents available to the verifier and information collected through performing interviews and on-site or remote assessment, GS’s tools and guidelines publicly available, relevant rules, including the host country legislation, etc.) to be independently reviewed, the project geographical locations to be visited, the project relevant personnel to be interviewed with, and processes that are necessary to acquire objective evidence for the evaluation of the project compliance to the GS4GG verification requirements .

The above verification activities are conducted according to the GS4GG requirements. In doing so, the principles of accuracy, completeness, relevance, reliability and credibility were followed.

The verification is not meant to provide any consulting service towards the PPs. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project.

1.3. Project Description

The Project was constructed and operated by Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd. The purpose of the project is to utilize landfill gas (LFG) for electricity generation. It is a combination project including LFG collection, LFG processing system and electricity generation. LFG collected is used for electricity generation with internal combustion engines and generators.

The location and geographical information of the project site described in the registered PDD has been confirmed by the Verification Team during the physical on-site visit. The installation and construction have been confirmed during the previous periodic verification. The operation hours of generators during this monitoring period has been reported in the MR which is confirmed to be correct by verifying the operating logbook/12/.

The project also got the GS registration on 22 Apr. 2009, which can be confirmed by the link <https://registry.goldstandard.org/projects/details/1643>. This is the 7th monitoring period covering the period from 01/04/2018-31/07/2020, contained in the 2nd crediting period from 22 Apr. 2014 to 21 Apr. 2021. The start date of this monitoring period is right after the last monitoring period and the end date is within this crediting period.

The electricity power generated by the project activity is supplied to National Electricity Grid of China, which has been verified by on-site physical inspection and document review/7/. Moreover, the Verification Team has verified the location of the installed equipment and also checked the metering system, found that the installed equipment and metering system are in place and fully consistent with the registered PDD.

No changes were observed during the on-site visit on the physical and spatial configuration of the project. Through the review of the operating logbook/12/, the Verification Team is able to confirm that there was no special event besides downtimes of the generators occurred during the monitoring period from 01/04/2018-31/07/2020.

As confirmed during the on-site visit, the operation time in this monitoring period is 19,532 h (generator 3#), 19,639h (generator 4#) and 19,711h (generator 5#). The generator #6 is still under construction.

Project's 1st crediting period: 22 Apr. 2007 to 21 Apr. 2014 (Renewable)

This is the 2nd crediting period: 22 Apr. 2014 to 21 Apr. 2021.

The Monitoring Period to be verified: 01/04/2018-31/07/2020 (first and last days included)

As part of the site visit the verification team was able to confirm that the project implementation is in accordance with the project description contained in registered PDD.

1.4. Verification Team

The verification team consists of the following personnel:

FUNCTION	NAME	TA 1.2	TA13.1	TASK PERFORMED*
Team Leader	Mr. Stefan Liang	☒	☒	☒ DR ☒ SV ☒ RI ☐ TR
Lead Verifier	Ms. Guo Jiayuan	☒	☒	☒ DR ☒ SV ☒ RI ☐ TR
Internal Technical Reviewer (ITR)	Ms. Ying Li	☒	☒	☐ DR ☐ SV ☐ RI ☒ TR

*DR = Document Review; SV = On-site Visit; RI = Report issuance; TR = Internal Technical Review

2. METHODOLOGY

CCCI has assessed and determined that the implementation and operation of the project activity, and the steps taken to report emission reductions comply with the GS4GG criteria, rules and relevant guidance provided by the GS Foundation or CDM-EB. The assessment involved a document review of relevant documentation as well as the on-site visits.

2.1. Review of Documents

A desk review of the MR (Version 1.0) /2/ and supporting documents were conducted by the verification team. The aim of the desk review of the documentation is to verify the completeness of the data and the information presented, to carry out the compliance check of the MR with respect to the monitoring plan, the applied methodology including applicable tool(s) and, where applicable, the applied standardized baseline. Particular attention was given to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures. The 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 was also conducted.

The verification team has checked for double counting by reviewing all relevant registries that could hold emission reductions from the project activity, such as CDM (<http://cdm.unfccc.int>), VCS (<http://www.v-c-s.org/>), ICAP (<https://icapcarbonaction.com/zh/>), and confirmed the project has not been registered as CDM project or under other voluntary carbon crediting scheme.

The additional background documents related to the registered PDD/1/, validation report /1/ and etc., formed the basis of the final conclusion were as presented in Section 4 of this report.

Section 6 of this report contains a complete list of all documents and proofs reviewed by the verification team.

2.2. On Site Assessment

The verification team performed a site visit to the project sites on 15 Dec 2020. During the site visit, the verification team interviewed with the relevant personnel and verified that the actual implementation of the project was as described in the registered PDD. This includes the review of the project operation based on the evidence of on-site observation and presented documents.

During the on-site assessment, the verification team has interviewed with key personnel of the project owner and the consultancy. The detail of the on-site assessment including the interviewees and the main topics of the interview are summarized in the following table.

Date: 15 Dec 2020	
Person interviewed:	
Organization: Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd. Mr. Li Zhihua (Manager) Mr. Wang Hua (Operation staff) Mr. Wang Lie (Operation staff)	
Organization: South Pole Carbon Asset Management Ltd. Ms. Alice Yang, Project Manager	
Question 1: Please briefly introduce the operation status of the project.	Response: The purpose of the project is to utilize landfill gas (LFG) for electricity generation. The operation of power plant was normal and no emergency occurred during this monitoring period.
Question 2: Please describe the monitoring system and data acquisition and process procedure of the Project.	Response: The monitoring of electricity export and import, the quantity of LFG, the fraction of Methane, the temperature and pressure of LFG was performed according to the registered monitoring plan. The total electricity exported to and imported from the grid by the project was monitored by bidirectional meters controlled by local power grid company.
Question 3: If sufficient trainings have been provided to the staff?	Response: Yes. The staffs here have accepted a series of trainings on the plant operation, project equipment inspection, prevention of diseases, biogas utilization and maintenance of wells, etc.. These trainings have demonstrated the improvement of employment quality.
Question 4: How many jobs have been created? Was the labour standards fulfilled?	Response: There are totally 7 persons were employed by this project. Pay roll is compliance with the local standards.
Question 5: Was the management of the landfill change?	Response: No. The management of the landfill was as the design.
Question 6: Were Continuous Input & Grievance Expression Methods implemented?	Response: Yes. No comments received.

Date: 15 Dec 2020	
Stakeholders interviewed:	
Chen Yan (residents) Yang Shen (residents)	
Question 1: What is your opinion about	Response: We live nearby and did not observe any negative impacts to the

the impact (positive and negative) of the Project? eg. air quality, noise?	air quality. No sound heard.
Question 2: Does the project contribute to the local society in a sustainable way?	Response: We have own jobs. We have no comments on this project.
Question 3: Do you support the Project, and any other comments on the Project?	Response: We support the project, no other comments.

2.3. Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to resolve identified issues that require further elaboration, research or expansion prior to CCCI's positive conclusion on the project implementation, monitoring practices and achieved emission reductions.

A Corrective Action Request (CAR) is raised, if one of the following situations occurs:

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

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

A Forward Action Request (FAR) may also be raised during verification for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

2.4. Internal Technical Review

The verification report underwent an Internal Technical Review (ITR) before requesting issuance of CERs/VERs for the project activity.

The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal CCCI procedures.

The Team Leader provides a copy of the verification report to the reviewer, including any necessary verification documentation. The reviewer reviews the submitted documentation for

conformance with the verification scheme. This will be a comprehensive review of all documentation generated during the verification process.

When performing an Internal Technical Review, the reviewer ensures that:

- The verification activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM/GS rules and requirements.
- The review encompasses all aspects related to the project which includes project implementation, monitoring report and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, closure of CARs and CLs during the verification exercise, review of sample documents.

The reviewer may raise Clarification Requests to the verification team and will discuss these matters with the Team Leader.

After the agreement of the responses to the Clarification Requests from the verification team as well as the PP(s), the finalized verification report is accepted for further processing.

3. VERIFICATION CONCLUSIONS

In the following sections, the conclusions of the verification are stated.

The findings from the desk review of the original monitoring report and the findings from interviews during the follow up visit are described in this section of the report.

3.1. Assessment of remaining issues from the previous validation/verification period

After reviewing the validation report and verification reports of prior monitoring periods /4/, the verification team found there are no remaining issues.

3.2. Compliance of the project implementation with the registered project design document

Means of verification	The verification team has performed an on-site inspection to verify if: a) All physical features (technology, project equipment, and monitoring and metering equipment) of the registered GS project activity are in place. b) The PP has operated the project as per the registered PDD. c) Information (data and variables) provided in the monitoring report that is different from that stated in the registered PDD, and has caused an increase in estimates of the emission reductions in the current monitoring period or is highly likely to increase the estimates of emission reductions in the future monitoring periods. During the on-site inspection, the verification team: • Walked through the project site and inspected the project facility and its operations; • Checked the installed equipment, including the monitoring instruments, their specifications, and cross-checked them against the PDD /1/, monitoring plan in the registered PDD, and the monitoring
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	report /2/; • Interviewed the staff responsible for the monitoring and implementation of the project; • Reviewed the project webpage on the GS website; • Reviewed the relevant training materials and training records /14/; • Reviewed the electricity receipts /8/.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ all physical features of the project activity have been fully implemented in accordance with the registered PDD /1/ and the monitoring equipment was installed as described in the monitoring plan in the registered PDD; ✓ The actual operation of the GS4GG project activity is implemented as per the registered PDD /1/ by the PP; ✓ Information (data and variables) provided in the monitoring report is in accordance with that stated in the registered PDD /1/.

3.3. Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline

Means of verification	The verification team has checked the monitoring plan in the registered PDD approved by GS4GG against the monitoring methodology ACM0001 “Flaring or use of landfill gas” Version 16.0 and applicable tools.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that the monitoring plan in the registered PDD, including data and parameters which are required to be monitored, monitoring and reporting procedures, measuring instruments, QA/QC procedures, complies with the applied monitoring methodology.

3.4. Compliance of monitoring activities with the registered monitoring plan

Overview of monitoring system

By site inspection and reviewing the evidences, the verification team confirmed the monitoring system as bellow, which is in compliance with the monitoring plan in the registered PDD:

The monitoring system is established to monitor the Net amount of electricity generated using LFG (EG_{LFG}), Amount of landfill gas combusted in power plant at Normal Temperature and Pressure ($LFG_{electricity,y}$), Methane fraction in the landfill gas (w_{CH_4}), the Temperature and Pressure of landfill gas.

The electricity generation is measured by Meter M1, M2 and M3, which have an accuracy of 0.5S and bidirectional electronic meters. The electricity imported from the grid is measured by M5 and M6, which are with an accuracy of 2.

Amount of landfill gas combusted in power plant is monitored by flow meters with accuracy 0.5. Temperature (T) and pressure (p) of the landfill gas are measured by meters installed between gas pre-treatment and generators. The accuracy of temperature meter is 1.5%; The accuracy of

pressure meter is 2.5%. Methane fraction in the landfill gas is monitored by methane analyzer with accuracy of 0.5. Operation of energy plant was monitored by TEM EVO System.

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

All the Data and parameters fixed ex ante was correctly presented in the MR and ER sheet.

Data and parameters monitored

Relevant Indicator/Safeguarding Principle	SDG SDG13 - Emissions Reductions
Data/parameter	Management of SWDS
Means of verification	Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be annually monitored and recorded. The verification team checked the operation management manual of the landfill /18/ and confirmed that the management of SWDS was in line with that in the registered PDD.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding Principle	SDG SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.
Data/parameter	Amount of landfill gas combusted in power plant at Normal Temperature and Pressure (LFG _{electricity,y})
Means of verification	Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be continuously monitored and recorded monthly by the flow meters. The verification team checked the flow meters, reviewed the LFG quantity records /7/ and confirmed that the measurements were continuously measured and recorded regularly as required by the monitoring plan in the registered PDD. QA/QC procedures applied QA/QC procedures conducted on site was verified via interviews with key personnels and review of following documents: • Monitoring Manual /10/ • Training records of the staffs /14/ • LFG quantity records /7/ • Meter calibration reports /11/

	Calibration of Meter has been implemented by the qualified entity. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan in the registered PDD. Information flow The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring Manual /10/ • LFG quantity records /7/ Data generation: The LFG flow meter was installed at the pipes between gas pre-treatment and generators for monitoring LFG quantity. Data aggregation and calculation: LFG quantity from the steam flow meter were summed up for the whole monitoring period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding	SDG	SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.
Data/parameter		Methane fraction in the landfill gas (w_{CH_4})
Means of verification		Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be hourly measured. The verification team reviewed the methane fraction records /7/ and confirmed that the measurements were conducted as required by the monitoring plan in the registered PDD. QA/QC procedures applied QA/QC procedures conducted on site was verified via interviews with key personnels and review of following documents: • Monitoring Manual /10/ • Training records of the staffs /14/ • Methane fraction records /7/ • Meter calibration reports /11/ Calibration of Meters has been implemented by the qualified entity. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan in the registered PDD.

	Data generation: The methane fraction in the landfill gas was measured at the pipes between gas pre-treatment and generators. Information flow The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring Manual /10/ • Methane fraction records /7/ Data aggregation and calculation: Methane fraction monthly average is used for monthly calculation.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding	SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.
Data/parameter	Temperature of the landfill gas (T)
Means of verification	Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be continuously measured. The verification team reviewed the temperature records /7/ and confirmed that the measurements were conducted as required by the monitoring plan in the registered PDD. QA/QC procedures applied QA/QC procedures conducted on site was verified via interviews with key personnels and review of following documents: • Monitoring Manual /10/ • Training records of the staffs /14/ • Temperature records /7/ • Meter calibration reports /11/ Calibration of Meters has been implemented by the qualified entity. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan in the registered PDD. Information flow The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents:

	- Monitoring Manual /10/ - Temperature records /7/ Data generation: The temperature meter was installed at the pipes between gas pre-treatment and generators for monitoring LFG temperature. Data aggregation and calculation: The highest temperature value is used for annual calculation, which can be considered conservative.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding	SDG	SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.
Data/parameter		Pressure of the landfill gas (P)
Means of verification		Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be continuously measured. The verification team reviewed the hourly Pressure records /7/ and confirmed that the measurements were conducted as required by the monitoring plan in the registered PDD. QA/QC procedures applied QA/QC procedures conducted on site was verified via interviews with key personnels and review of following documents: - Monitoring Manual /10/ - Training records of the staffs /14/ - Pressure records /7/ - Meter calibration reports /11/ Calibration of Meters has been implemented by the qualified entity. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan in the registered PDD. Information flow The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: - Monitoring Manual /10/ - Pressure records /7/ Data generation: The pressure meter was installed at the pipes

	between gas pre-treatment and generators for monitoring LFG pressure. Data aggregation and calculation: The lowest Pressure value is used for annual calculation, which can be considered conservative.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding	SDG	SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities. SDG Indicator 7.2.1: Renewable energy share in the total final energy consumption
Data/parameter		Net exported electricity to ECPG (EL_{LFG})
Means of verification		Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be continuously monitored and recorded hourly, and calculated by: $EL_{LFG} = EL_{\text{generation}} - EL_{\text{internal consumption}}$ Data aggregation and calculation: Net electricity exported to the ECPG is the sum of the Electricity generation from the generator, minus the sum of the electricity imported from the grid, over the monitoring period.
Findings		No findings raised in this section.
Conclusion		The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding	SDG	SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.
Data/parameter		Electricity imported from the grid in the year y. It includes the

	electricity consumption of the gas collection system. (EL _{internal consumption})
Means of verification	Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be continuously monitored and recorded monthly. The verification team checked the meters, reviewed the monthly reports /7/ and confirmed that the measurements were continuously measured and recorded monthly as required by the monitoring plan in the registered PDD. QA/QC procedures applied QA/QC procedures conducted on site was verified via interviews with key personnels and review of following documents: • Monitoring Manual /10/ • Training records of the staffs /14/ • Monthly reports /7/ • Meter calibration reports /11/ Calibration of Meter has been implemented by the qualified entity. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan in the registered PDD. Information flow The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring Manual /10/ • Monthly reports /7/ Data generation: The bidirectional meter with accuracy class of 2 were installed at the line to the internal consumption for monitoring electricity generation. Data recording: Monitoring data is collected hourly in accordance with the monitoring plan. Data aggregation and calculation: electricity imported is the sum of the electricity imported per month measured by the meters over the monitoring period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding	SDG	SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support,
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	and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.
Data/parameter	Electricity generation from the generator in the year y (EL generation)
Means of verification	Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be continuously monitored and recorded monthly. The verification team checked the meters, reviewed the monthly reports /7/ and confirmed that the measurements were continuously measured and recorded monthly as required by the monitoring plan in the registered PDD. QA/QC procedures applied QA/QC procedures conducted on site was verified via interviews with key personnels and review of following documents: • Monitoring Manual /10/ • Training records of the staffs /14/ • Monthly reports /7/ • electricity receipts /8/ • Meter calibration reports /11/ Electricity export is cross-checked against relevant electricity sales receipts /8/ from the grid for quality control. Calibration of Meter has been implemented by the qualified entity. The verification team confirmed that the QA/QC procedures applied is in accordance with the monitoring plan in the registered PDD. Information flow The flow of information from data generation, aggregation, to recording, calculation and reporting was verified by interviews with the key personnels and review of following documents: • Monitoring Manual /10/ • Monthly reports /7/ • Electricity receipts /8/ Data generation: The bidirectional meter with accuracy class of 0.5S were installed at the output of generators for monitoring electricity generation. Data recording: Monitoring data is collected hourly in accordance with the monitoring plan. Data aggregation and calculation: electricity generation is the sum of the electricity generation per month measured by the meters over the monitoring period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for

	required parameters have been verified by checking the whole information flow.
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Relevant Indicator/Safeguarding	SDG SDG Indicator 13.B.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities.
Data/parameter	Operation of the energy plant
Means of verification	Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be annually monitored and recorded. The verification team checked the monthly reports /7/ and confirmed that the measurements were recorded monthly as required by the monitoring plan in the registered PDD. The operational hour of the energy plant is measured by an automatic counter as an inherent component of TEM EVO System. Once the generator is downtime, the counter stops counting automatically. Through the onsite visit and checking the operation logbook, the verification team confirms that the TEM EVO system operates smoothly during the proposed monitoring period. The cumulative monthly values were recorded on the monthly reading records. The values reported in the monitoring report and ER spreadsheet has been checked against the values recorded in monthly reading records.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant Indicator/Safeguarding	SDG SDG13 - Emissions Reductions
Data/parameter	Laws and regulations about waste management system in China
Means of verification	Measurement/reading/recording frequency The monitoring plan in the registered PDD requires this parameter to be annually monitored and recorded. As per the applied methodology ACM0001, version 16 and the monitoring plan in the registered PDD, the law and regulations about the waste management system need to be monitored. In case where a specific system for collection and destruction of methane is mandated by regulatory or contractual requirements, the ratio of the destruction efficiency of the baseline system to the destruction

	efficiency of the system used in the project activity shall be used. By checking the publicly available data resources, the verification team is able to confirm regulations has not changed from the time of validation of renewal of crediting period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with monitoring plan in the registered PDD. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

Relevant SDG Indicator/Safeguarding Principle	Safeguarding Principle 3 – Environment, ecology and land use SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
Data/parameter	Air Quality
Means of verification	The monitoring plan /1/ requires this parameter to be monitored annually, by third party. The verification team checked the testing report issued by Suzhou Guohuan Environment Detection Co., Ltd. and Kang Da Testing Technology (Jiangsu) Co., Ltd. , which are authorized and independent third parties accredited by provincial Administration of Quality and Technology Supervision. The test reports and the accreditation certificates are available to the Verification Team/15//16/. The test reports dated on 28/11/2018, 24/04/2019 and 04/03/2020 respectively, indicates that the waste gas emitted by the project is in compliance with the GB16297-1996 “Integrated emission standard of air pollutants”.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	Safeguarding Principle 3 – Environment, ecology and land use SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
Data/parameter	Water Quality
Means of verification	The monitoring plan /1/ requires this parameter to be monitored annually, by third party. The verification team checked the testing report issued by Kang Da Testing Technology (Jiangsu) Co., Ltd., which is authorized and independent third party accredited by provincial Administration of

	Quality and Technology Supervision. The test reports and the accreditation certificates are available to the Verification Team/15//16/. The test reports dated 23/05/2018, 10/04/2019 and 22/05/2020, indicate that the water is qualified to the national standard GB 14848-1993 "Quality standard for ground water".
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	Safeguarding Principle 3 – Environment, ecology and land use SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
Data/parameter	Other Pollutant - Noise
Means of verification	The monitoring plan /1/ requires this parameter to be monitored annually. As confirmed during the on-site visit, the muffler was installed to avoid the noise impact on the local citizens and employees during the project operation. Noise impact has been monitored in the years of 2018-2020 by Kang Da Testing Technology (Jiang Su) Co., Ltd., which are authorized and independent third parties accredited by provincial Administration of Quality and Technology Supervision. The test reports and the accreditation certificates are available to the Verification Team /15//16/. The test results dated 23/05/2018, 28/04/2019 and 19/06/2020 indicate that the noise impact is qualified to the national standard GB 12348-2008 'Standard of noise at boundary of industrial enterprises'.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
Data/parameter	Employment
Means of verification	The monitoring plan /1/ requires this parameter to be monitored by provision of name list of employment. The verification team checked name list of the employment/13/ and training records/14/, and confirms the staffs have gained the rich technical knowledge through the training courses, which is in line with local labor standards.

Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
Data/parameter	Livelihood of the poor
Means of verification	The monitoring plan /1/ requires this parameter to be monitored by the wages of employment. The accounting report has been recorded by the human resource department. People engaged during the monitoring period were recorded in the accounting system of the plant. Salary payment sheet/13/ has been provided to the Verification Team. It has been confirmed the average monthly payment of the staffs has been increased from 9300RMB in year 2018 to 9700RMB in year 2020 during this this monitoring period, which is much higher than the salary of private entity of Jiangsu province (e.g about 5000RMB per month in year 2019)
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Relevant SDG Indicator/Safeguarding Principle	SDG Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.
Data/parameter	Human and institutional capacity
Means of verification	The monitoring plan /1/ requires this parameter to be monitored by provision of training records of employment. During this monitoring period, the project provided many onsite trainings for the staffs, which are verified by checking the training records/14/. It is confirmed by the verification team that the human and institutional capacity is fulfilled for operation.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Data/parameter	$R_{LFG,y}$
Means of verification	The monitoring plan /1/ requires this parameter to be monitored by checking the layout of the collection pipelines. The actual layout of the entire collection pipelines/9/ which covers from the well to electricity generator has been provided to the Verification Team, which shows that all the collected LFG has been used to electricity generation. During the on-site visit, no other pipelines connected to the project site can be identified which indicates that no LFG was used for other purpose than electricity generation or directly venting to the atmosphere. Thus it is confirmed that $R_{LFG,y}$ is nearly close to 100% which meets the requirement of Gold Standard, i.e. at least higher than 65%.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

Data/parameter	Continuous Input & Grievance Expression Methods
Means of verification	The monitoring plan /1/ requires this parameter to be monitored by checking the Interview records or records on the input/grievance expression process book. The verification team checked the evidences/17/ provided and confirms the Continuous Input & Grievance Expression Methods given was implemented during this monitoring period, and no comments were received during this monitoring period.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD /1/. ✓ The parameter required by the monitoring plan have been sufficiently monitored and correctly listed.

3.5. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Measuring instruments			
	By site inspection, the information of the monitoring equipment is summarised below:			
	Type	Serial number	Location	Accuracy Class
	Electricity meter	1524765942(M1)	Output of generator	0.5S
	Electricity meter	1528634635(M2)	Output of generator	0.5S

	Electricity meter	1524764230(M3)	Output of generator	0.5S
	Electricity meter	2355946(M5)	line to the internal consumption	2
	Electricity meter	2008-0577129(M6)	line to the internal consumption	2
	Flow meter	F1:01965563	Between gas pre-treatment and generators	0.5
	Flow meter	F2:FD21246A	Between gas pre-treatment and generators	0.5
	Methane Analyzer	1111205090116 1825249	NA	0.5
	Temperature meter	01	Between gas pre-treatment and generators	1.5
	Temperature meter	02	Between gas pre-treatment and generators	1.5
	Pressure meter	110623626	Between gas pre-treatment and generators	2.5
	Pressure meter	110623628	Between gas pre-treatment and generators	2.5

The verification team confirmed the accuracy class is in line with the monitoring plan. All aspects of the installation of the meters and the monitoring procedures were found to be consistent with the monitoring plan in the registered PDD.

Calibration

As per the monitoring plan in the registered, the calibration of the monitoring equipment will be conducted periodically according to relevant national standard. Detailed calibration info listed below:

Serial number	Accuracy Class	Date of calibration	Valid until (date)
1524765942(M1)	0.5S	26/06/2017	25/06/2018
		22/06/2018	21/06/2019
		18/06/2019	17/06/2020
		15/06/2020	14/06/2021
1528634635(M2)	0.5S	26/06/2017	25/06/2018
		22/06/2018	21/06/2019
		18/06/2019	17/06/2020
		15/06/2020	14/06/2021
1524764230(M3)	0.5S	26/06/2017	25/06/2018
		22/06/2018	21/06/2019
		18/06/2019	17/06/2020
		15/06/2020	14/06/2021
2355946(M5)	2	26/06/2017	25/06/2018
		22/06/2018	21/06/2019
		18/06/2019	17/06/2020

			15/06/2020	14/06/2021
	2008-0577129(M6)	2	26/06/2017	25/06/2018
			22/06/2018	21/06/2019
			18/06/2019	17/06/2020
			15/06/2020	14/06/2021
	F1:01965563	0.5	05/02/2018	04/02/2019
			26/01/2019	25/01/2020
			22/01/2020	21/01/2021
	F2:FD21246A	0.5	01/02/2018	31/01/2019
			24/01/2019	23/01/2020
			22/01/2020	21/01/2021
	11112050901161825249	0.5	05/02/2018	04/02/2019
			26/01/2019	25/01/2020
			22/01/2020	21/01/2021
	01	1.5	12/03/2018	11/03/2019
			06/03/2019	05/03/2020
			03/03/2020	02/03/2021
	02	1.5	12/03/2018	11/03/2019
			06/03/2019	05/03/2020
			03/03/2020	02/03/2021
	110623626	2.5	12/03/2018	11/09/2018
			10/09/2018	09/03/2019
			07/03/2019	06/09/2019
			04/09/2019	03/03/2020
			02/03/2020	01/09/2020
	110623628	2.5	12/03/2018	11/09/2018
			10/09/2018	09/03/2019
			07/03/2019	06/09/2019
			04/09/2019	03/03/2020
			02/03/2020	01/09/2020
It is confirmed by verification team that the calibrations for all the meters cover this monitoring period. The calibration was conducted by the national standards. The calibration of meters was conducted by the Jiangsu Electrical Institute Measurement Center and Suzhou Institute of Measurement and Testing Technology, which were authorized calibration entities.				
Findings	CAR1 The calibration info of meter FD21246A is different from evidence provided. The verification team checked the revised MR, and confirms the calibration info of meter FD21246A has been corrected, and in line with the calibration			

	certificate. The CAR is therefore closed.
Conclusion	The verification team confirms that: ✓ The equipment for monitoring has an appropriate accuracy and has been controlled and operated in accordance with the monitoring plan in the registered PDD. ✓ The calibration has been conducted at the frequency as specified by the methodology and the monitoring plan in the registered PDD.

3.6. Assessment of data and calculation of SDG outcomes

Calculation of baseline GHG emissions

Means of verification	The verification team has verified the baseline emissions by:			
	(a) desk review and on-site inspection on the monthly reports /7/, and electricity receipts /8/ to verify that a complete set of data for the specified monitoring period is available;			
	(b) Information provided in the monitoring report has been cross-checked with other sources such as the monthly reports /7/, and electricity receipts /8/;			
	(c) Review the calculations of baseline GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan in the registered PDD, and the methodology ACM0001 “Flaring or use of landfill gas” Version 16.0 /5/;			
	(d) Review combined baseline emission factors provided in the registered PDD /1/;			
	Baseline emissions are calculated as below:			
	$E_y=BE_{CH_4,y}+BE_{EC,y}$			
	$BE_{EC,y}=\sum_k EC_{BL,k,y} \times EF_{EL,k,y} \times (1+TDL_{k,y})$			
	Parameter	Description	Data	Unit
	BE _{EC,y}	Baseline emission for electricity in year y	42,383	tCO ₂ /yr
	EC _{BL,k,y}	Quantity of electricity that would be consumed by the baseline electricity consumption source k in year y. In this project, the equivalent electricity is from ECPG.	57394.84	MWh/yr
	EF _{EL,k,y}	Emission factor for electricity generation for source k in year y (tCO ₂ /MWh). In this project, it is EF of ECPG. EF _{EL,k,y} =EF _{grid,CM,y}	0.71694	tCO ₂ /MWh
	TDL _{k,y}	Average technical transmission and distribution losses for providing electricity to source k in year y	3%	/

The total quantity of $EL_{\text{generation}}$ and $EL_{\text{internal-consumption}}$ for Vintage of 01/04/2018-31/07/2020, and the calculation is clearly presented in the emission reduction (ER) spreadsheet /3/.

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

Parameter	Description	Data	Unit
$BE_{CH_4,y}$	Baseline emissions of methane from the SWDS in year y	278123	tCO ₂ /yr
$OX_{\text{top_layer}}$	Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline	0.1	/
$F_{CH_4,PJ,y}$	Amount of methane in the LFG which is flared and/or used in the project activity in year y	12361	tCH ₄ /yr
$F_{CH_4,BL,y}$	Amount of methane in the LFG that would be flared in the baseline in year y. No requirement in the baseline,therefor, it is 0.	0	tCH ₄ /yr
GWP_{CH_4}	Global warming potential of CH ₄	25	tCO ₂ /tCH ₄

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

(4)

Parameter	Description	Data	Unit
$F_{CH_4,\text{flared},y}$	Amount of methane in the LFG which is destroyed by flaring in year y	0	tCH ₄ /yr
$F_{CH_4,\text{EL},y}$	Amount of methane in the LFG which is used for electricity generation in year y. The amount of methane is calculated according to the record of landfill gas pressure, temperature, and methane fraction. The calculation is shown the following equation (5)	12361	tCH ₄ /yr

$$F_{CH_4,\text{EL},y} = LF_{\text{Electricity},y} \times W_{CH_4} \times P_1 \times T_0 \times \rho_0 / (P_0 \times T_1)$$

(5)

$LF_{\text{Electricity}}$	Amount of landfill gas combusted in power plant (m ³)
W_{CH_4}	Methane fraction in the landfill gas (m ³ CH ₄ /m ³ LFG)
P_1	Pressure of collected landfill gas (kPa)
T_0	Temperature under standard condition, 0 degree Celsius
ρ_0	Density of methane under standard condition, 0.0007168t/m ³
P_0	Pressure under standard condition (101.3 kPa)
T_1	Temperature of collected landfill gas, degree Celsius

Data for amount of landfill gas and Methane fraction in the landfill gas for the period from 01/04/2018-31/07/2020 in the MR /2/ and the emission reduction calculation sheet /3/ has been checked to be consistent against the values in the monthly reports /7/. The annual highest temperature and lowest pressure are selected as data for temperature and pressure, which is considered conservative.

The Verification Team confirms that the baseline emissions have been

	correctly calculated as 320,506 tCO ₂ e.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the baseline GHG emission calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in emission calculations; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.

Calculation of project GHG emissions (PE_y)

Means of verification	The verification team has verified the project emissions by:																				
	(a) desk review and on-site inspection on the monthly reports /7/, and electricity receipts /8/ to verify that a complete set of data for the specified monitoring period is available;																				
	(b) Information provided in the monitoring report has been cross-checked with other sources such as the monthly reports /7/, and electricity receipts /8/;																				
	(c) Review the calculations of baseline GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan in the registered PDD, and the methodology ACM0001 “Flaring or use of landfill gas” Version 16.0 /5/;																				
	(d) Review combined baseline emission factors provided in the registered PDD /1/;																				
	Project emissions are calculated as below:																				
	$PE_y = PE_{EC,y} + PE_{FC,y} + PE_{DT,y}$																				
	<table><tr><th>Parameter</th><th>Description</th><th>Data</th><th>Unit</th></tr><tr><td>PE_y</td><td>Project emissions in year y</td><td>3,264</td><td>tCO₂/yr</td></tr><tr><td>PE_{EC,y}</td><td>Emissions from consumption of electricity due to the project activity in year y</td><td>3,264</td><td>tCO₂/yr</td></tr><tr><td>PE_{FC,y}</td><td>Emissions from consumption of fossil fuel due to the project activity, for purpose other than electricity generation, in year y. There is no fossil fuel in the project.</td><td>0</td><td>tCO₂/yr</td></tr><tr><td>PE_{DT,y}</td><td>Emissions from the distribution of compressed/liquefied LFG using trucks, in year y. No distribution of compressed/liquefied FLG using trucks in the project.</td><td>0</td><td>tCO₂/yr</td></tr></table>	Parameter	Description	Data	Unit	PE _y	Project emissions in year y	3,264	tCO ₂ /yr	PE _{EC,y}	Emissions from consumption of electricity due to the project activity in year y	3,264	tCO ₂ /yr	PE _{FC,y}	Emissions from consumption of fossil fuel due to the project activity, for purpose other than electricity generation, in year y. There is no fossil fuel in the project.	0	tCO ₂ /yr	PE _{DT,y}	Emissions from the distribution of compressed/liquefied LFG using trucks, in year y. No distribution of compressed/liquefied FLG using trucks in the project.	0	tCO ₂ /yr
	Parameter	Description	Data	Unit																	
	PE _y	Project emissions in year y	3,264	tCO ₂ /yr																	
PE _{EC,y}	Emissions from consumption of electricity due to the project activity in year y	3,264	tCO ₂ /yr																		
PE _{FC,y}	Emissions from consumption of fossil fuel due to the project activity, for purpose other than electricity generation, in year y. There is no fossil fuel in the project.	0	tCO ₂ /yr																		
PE _{DT,y}	Emissions from the distribution of compressed/liquefied LFG using trucks, in year y. No distribution of compressed/liquefied FLG using trucks in the project.	0	tCO ₂ /yr																		
$PE_{EC,y} = \sum_i EC_{PJ,j,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y})$																					

Parameter	Description	Data	Unit
$PE_{EC,y}$	Emissions from consumption of electricity due to the project activity in year y	3,264	tCO ₂ /yr
$EC_{PJ,j,y}$	Quantity of electricity consumed by the project electricity consumption source j in year y	3793.56	MWh/yr
$EF_{EL,j,y}$	Emission factor for electricity generation for source j in year y	0.71694	
$TDL_{j,y}$	Average technical transmission and distribution losses for providing electricity to source j in year y	20%	

Data for electricity imported from the grid or the period from 01/04/2018-31/07/2020 in the MR /2/ and the emission reduction calculation sheet /3/ has been checked to be consistent against the values in the monthly reports /7/.

The Verification Team confirms that the project emissions have been correctly calculated as 3,264 tCO₂e.

Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the project GHG emission calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of project emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in emission calculations; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.

Calculation of leakage GHG emissions

Means of verification	The verification team has reviewed the leakage calculation as per the registered PDD /1/ and the applied methodology /5/. No leakage needs to be considered according to ACM0001 "Flaring or use of landfill gas" Version 16.0.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that no leakage needs to be considered, which is consistent with methodology ACM0001 "Flaring or use of landfill gas" Version 16.0.

Summary of calculation of GHG emission reductions (ER_v)

Means of verification	The verification team has reviewed the calculation of GHG emission reductions in the MR /2/ and emission reduction calculation spreadsheet /3/.
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	As per the registered PDD and the applied methodology, GHG emission reductions were calculated by: $ER_y = BE_y - PE_y.$ The emission reductions during the monitoring period from 01/04/2018-31/07/2020 are calculated as: <table><tr><th>Monitoring Period</th><th>BE_y (tCO₂e)</th><th>PE_y (tCO₂e)</th><th>ER_y(tCO₂e)</th></tr><tr><td>01/04/2018-31/07/2020</td><td>320,506</td><td>3,264</td><td>317,242</td></tr></table>	Monitoring Period	BE _y (tCO ₂ e)	PE _y (tCO ₂ e)	ER _y (tCO ₂ e)	01/04/2018-31/07/2020	320,506	3,264	317,242
Monitoring Period	BE _y (tCO ₂ e)	PE _y (tCO ₂ e)	ER _y (tCO ₂ e)						
01/04/2018-31/07/2020	320,506	3,264	317,242						
Findings	No findings								
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the baseline GHG emission calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of baseline emissions have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document; ✓ There are no assumptions in emission calculations; ✓ Appropriate emission factor, IPCC default values, GWPs and other reference values have been correctly applied.								

Verification of other SDG outcomes

Means of verification	The verification team has reviewed the monitoring report and confirms the SDG outcome of SDG 7 and SDG8, including the calculation of baseline value and project value, and net benefits are correctly calculated and in line with evidences verified/7//8//13//14/.
Findings	No findings raised in this section.
Conclusion	The verification team confirms that: ✓ A complete set of data for the monitoring period is available; ✓ Information on the project SDG outcomes calculation provided in the monitoring report has been cross-checked with other sources; ✓ Calculations of SDG outcomes have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document.

Comparison of actual SDG impacts with estimates in registered PDD

Means of verification	The comparison of actual SDG impacts, including SDG 13 (GHG emission reductions) and SDG 7 (Net exported electricity to grid) with that estimated in registered PDD /1/, has been checked and re-calculated by the verification team. The actual operation days of the Project in this monitoring period 01/04/2018-31/07/2020 is 853 days. The corresponding electricity estimate to the grid in the monitoring period are 58,406MWh (24,992 *853/365). The actual electricity to the grid is 53,601, which is lower than estimation in PDD.
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	From 01/04/2018 to 31/12/2018, there are 275 days. From 01/01/2020 to 31/07/2020, there are 213 days. The corresponding emission reductions estimate in this monitoring period is calculated as $303,945 \text{ tCO}_2\text{e} = (136,478 \times 275/365 + 129,455 + 122,804 \times 213/365) \text{ tCO}_2\text{e}$. The actual emission reductions are 317,242 tCO ₂ e, which is higher than the estimated value in the monitoring period.
Findings	No findings raised in this section.
Conclusion	The actual emission reductions are higher than the estimated value in the monitoring period.

Remarks on difference from estimated value in registered PDD

Means of verification	The actual emission reductions during this monitoring period are 4.37% higher than the corresponding estimate in registered PDD. Relevant reasoning has been provided in the MR version 01. The verification team confirms that the ex-ante hypothetical model given by “Emissions from solid waste disposal sites” of CDM EB has some uncertainties, that methane emissions from SWDS depends on several factors that the PP can not control, such as atmosphere temperature and pressure, waste type and physical-chemical reaction under the ground. The methane emission fluctuating along with the time of disposal may not be in precisely accordance with the ex-ante model. Thus, for this project, it is reasonable the methane emission and collected was 17% lower than estimated in the last monitoring period, 4.37% higher than estimated in this monitoring period, and totally 9.65% lower than estimated of first two monitoring periods of second crediting period.
Findings	No findings raised in this section.
Conclusion	The clarification of the difference from estimated value in registered PDD is acceptable from the verification team.

3.7. Post-registration changes

Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline

No temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline were identified during the verification.

Corrections

No corrections to project information or parameters fixed at validation, as described in the registered PDD have been made.

Changes to the start date of the crediting period

There is no change to the start date of the second crediting period.

Inclusion of a monitoring plan to a registered project activity

Not Applicable.

Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline

No permanent changes from the registered monitoring plan, monitoring methodology or standardized baseline were identified during the verification.

Changes to the project design of a registered project activity

There are no proposed or actual changes to the project design of the registered GS4GG project activity.

Types of changes specific to afforestation and reforestation project activities

Not Applicable.

3.8. Assessment of added safeguarding principles

Safeguarding principles that quoted in the registered PDD and transition annex (Safeguarding Principle 3 – Environment, ecology and land use, on air quality, water quality and noise) have been verified in the section 3.4 of this report. No other added safeguarding is observed.

3.9. Assessment of stakeholder inputs and legal disputes

Info about Continuous Input & Grievance Expression Methods has been verified, please see section 3.4 for details.

The verification team checked relevant website of Supreme People's Court of P. R. China (<https://www.creditchina.gov.cn/>) and National Enterprise Credit Information Publicity System (<http://js.gsxt.gov.cn/index.html>), no legal contest or dispute of the PP are observed.

4. VERIFICATION AND CERTIFICATION STATEMENT

China Certification Center, Inc. (CCCI) has performed the periodic verification of Suzhou Qizi Mountain Landfill Gas Recovery Project (hereafter referred as 'the Project'), GS Project Number 397, covering the monitoring period 01/04/2018-31/07/2020. The verification was performed on the basis of GS4GG criteria, UNFCCC Methodology ACM0001 "Flaring or use of landfill gas" Version 16.0, and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of the project design, monitoring report and additional background documents; ii) on-site inspection and follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

CCCI has verified the project Monitoring Report Version 2.0 05/01/2021 /2/ for the monitoring period as indicated above. CCCI confirms that the Project is implemented as described in the registered Project Design Document for Gold Standard for the Global Goals Voluntary Offset projects and its transition annex. Installed equipment being essential for generating emission reductions run reliably and are calibrated appropriately. The monitoring system is in place and the Project is generating GHG emission reductions as a GSVER project.

CCCI can confirm that the SDG impact are calculated without material misstatements. Our opinion relates to the Projects' SDG impact reported and related to the validated and registered project baseline, monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to guarantee that SDG impact are appropriately calculated, CCCI confirms the following statement:

SDG13 – GHG Emission reduction impacts during this monitoring period 01/04/2018-31/07/2020	317,242 tCO ₂ e
SDG 7 – Renewable energy generated during this monitoring period 01/04/2018-31/07/2020	53,601MWh
SDG 8 – Number of jobs created	7

Mr. Stefan Liang
Team Leader
18/01/2021

Ms. Ying Li
Internal Technical Reviewer
18/01/2021

5. COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Stefan Liang	Team Leader	Mr. Stefan Liang is a lead Auditor based in Beijing. Mr Liang holds a BEn in Environmental Engineering and an MSc in Environmental Science & Engineering. He has 11 years' experience in carbon project development and certification, including 10 years' experience in GHG projects' validation and verification. He has participated in CDM validation and verification for about 100 projects, which include sectors in wind power, hydropower, biomass, waste heat recovery, waste disposal and coal mine methane. Mr. Liang is qualified as expert for sectoral scope 1. Energy & 13. Waste handling and treatment. Mr. Liang has completed the CCCI Validation & Verification training course, and has completed internal auditor training in ISO 9001 and ISO14001, and lead auditor training in CDM and ISO 14064. Mr. Liang has passed the GS DOE webinar on 8 Dec 2016 and 27 Mar 2017, and conducted verification for several GS VER projects (GS 612, GS472, GS1001, GS1350, GS401).
Guo Jiayuan	Lead Verifier	Ms. Guo Jiayuan is an experienced technical expert in the field of climate change and GHG emission reduction. She has more than 10 years' experience in the development and implementation of CDM projects. She has participated in more than 30 CDM projects covering diversified scope, including wind power, hydro power, LNG power generation and biomass cogeneration. By developing project design document and monitoring report, desk review and onsite visit, she gained extensive experience in the whole process of CDM project developing. Ms. Guo Jiayuan has completed the CCCI Validation & Verification training course, and has completed internal auditor training in ISO 9001 and ISO14001, and lead auditor training in CDM and ISO 14064. Guo Jiayuan has covered sectoral scopes of 1 and 13. Ms. Guo Jiayuan has abundant GHG project auditing experience in China.
Li Ying	Technical Reviewer	Ms. Li Ying is an environmental engineer with extensive practical experience in the carbon market. She has worked in carbon markets since 2006 and gained extensive experience in the development and implementation of CDM projects, working in the area of project-based mechanisms. Her background includes both project validation and verification, in different sectoral scopes, including renewable energy, waste heat and gas recovery from iron and steel plants or cement plants, landfill gas combustion and utilization projects, coal mine methane, natural gas. She has developed and

		managed the validation/verification of number of CDM project activities, including experiences in CDM Project Design Document (PDD) development, the monitoring system building, data QA/QC, emission reduction calculation review and documentation review, where she has obtained a good understanding of technical aspects in these sectoral scopes as well as their specific CDM aspects.
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6. DOCUMENTS REVIEWED OR REFERENCED

No.	Author	Title	References to the document	Provider
/1/	South Pole Carbon Asset Management Ltd.	Registered GS-VER-PDD, version 3.2 dated 20/03/2017, transition annex dated and validation report of RCP	https://registry.go/ldstandard.org/projects/details/1643	Others
/2/	South Pole Carbon Asset Management Ltd.	Monitoring Report version 1. dated 25/11/2020	-	Project participants
		Revised Monitoring Report Version 2.0 05/01/2021	-	Project participants
/3/	South Pole Carbon Asset Management Ltd.	Emission reduction calculation sheet	-	Project participants
/4/	-	Verification Reports for the previous monitoring periods	https://registry.go/ldstandard.org/projects/details/1643	Others
/5/	CDM EB	ACM0001 “Flaring or use of landfill gas”, Version 16.0	-	Others
/6/	CDM EB	Methodological tool “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation”, Version 03.0	-	Others
/7/	Project owner	Daily and monthly reports covering the monitoring period from 01/04/2018-31/07/2020	-	Project participants
/8/	-	Electricity receipts	-	Project participants
/9/	Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd.	Layout of the entire collection pipelines	-	Project participants
/10/	Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd.	Monitoring Manual	-	Project participants
/11/	Calibration entities	Calibration reports of the electricity meters, flow meters, the methane analyzer, and pressure and temperature meters	-	Project participants
/12/	Everbright Environment and Energy (Suzhou)	Operation Log	-	Project participants

	Landfill Gas to Energy Co., Ltd.			
/13/	Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd.	Employees list and salary details, 2018-2020	-	Project participants
/14/	Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd.	Training materials and training records, 2018-2020	-	Project participants
/15/	Suzhou Guohuan Environment Detection Co., Ltd. and Kang Da Testing Technology (Jiangsu) Co., Ltd.	Testing reports on air quality, water quality and noise, 2018-2020	-	Project participants
/16/	National and Provincial Administration of Quality and Technology Supervision	Accreditation certificates for the testing entity	-	Project participants
/17/	Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd.	Grievance expression process book	-	Project participants
/18/	Everbright Environment and Energy (Suzhou) Landfill Gas to Energy Co., Ltd.	Operation management manual of the landfill	-	Project participants
/19/	GS Foundation	Principles & Requirements Version 1.2; Safeguarding Principles & Requirements Version 1.2; Stakeholder Consultation and Engagement Requirements Version 1.2; Renewable Energy Activity Requirements Version 1.2; Rule on COVID 19: Interim Measures version 3; Validation Verification Body Requirements Version 1.0	https://www.goldstandard.org/	Others

7. CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS AND FORWARD ACTION REQUESTS

Table 1. CAR from this verification

CAR ID	1	Section no.	3.5	Date: 27 Dec 2020
Description of CAR				
The calibration info of meter FD21246A is different from evidence provided. Please correct it.				
Project participant response				Date: 05 Jan 2021
The calibration info of meter FD21246A has been corrected to be consistent with the evidence provided in the revised MR.				
Documentation provided by project participant				
Revised MR				
DOE assessment				Date: 05 Jan 2021
The verification team checked the revised MR, and confirms the calibration info of meter FD21246A has been corrected, and in line with the calibration certificate.				
The CAR is therefore closed.				

No remaining FAR from validation and/or previous verification.

No FAR from this verification