



TÜV SÜD Project No.: 600500342

Validation Report:

Name of Verification company:	Date of the issue:
TÜV SÜD Industrie Service GmbH	November 12, 2009
Report Title:	Approved by:
Validation of the VCS project: Clinton Landfill #2 Gas Collection and Combustion Project	TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 D-80686 München Deutschland/Germany
Client:	Project Title:
TerraPass, Inc.	Clinton Landfill #2 Gas Collection and Combustion Project
Summary:	
TÜV SÜD has performed a validation of the following proposed VCS project activity that would reduce methane emission which otherwise would be released partially to the atmosphere in the Clinton Landfill # 2 through the introduction of a new system to capture and destroy landfill gas by an electricity generator set. The assessment team has reviewed the project design documentation and subsequent follow-up interviews to provide the sufficient evidence to determine the fulfilment of all stated criteria, ensuring that the project meets all relevant VCS requirements. Validation opinion: ☒ The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant VCS requirements. Hence TÜV SÜD will recommend the project for registration by the VCS Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively. ☐ The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the VCS Board and will inform the project participants and the VCS Board on this decision.	
Work carried out by:	Number of pages:
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1 Introduction

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Voluntary Carbon Standard (VCS). Validation is part of the VCS project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the VCS board. The ultimate decision on the registration of a proposed project activity rests at the VCS Registry operator.

The project activity discussed by this validation report has been submitted under the project title:

“Clinton Landfill #2 Gas Collection and Combustion Project”

1.2 Scope and Criteria

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of the VCS project activities the scope is set by:

- The Voluntary Carbon Standard (VCS) 2007.1
- VCS Program Guidelines 2007.1
- Applicable CDM baselines and monitoring methodologies
- Management systems and auditing methods
- Environmental issues relevant to the sector
- Applicable environmental and social impacts and aspects of VCS project activity
- Sector specific technologies and their applications
- Current technical and operational knowledge of the specific sectoral scope and information on best practice.

The validation is not meant to provide any consulting towards the project proponent (PP). However, stated requests for clarifications, corrective actions and/or forwards actions may provide input for improvement of the project design.

Once TÜV SÜD receives a first VCS project document (VCS PD) version, document review is started to check the applicability and completeness of the information. At the end of the validation process, the final VCS PD will form the basis for the final evaluation as presented in this report.

The purpose of the validation is its use during the registration process as part of the VCS project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

1.3 VCS project Description

The project activity involves voluntary expansion of the Clinton Landfill # 2 landfill gas management system to capture and destroy methane that would be partially released to the atmosphere, via combustion engines. The system includes wells, piping, blowers, meters and valves; a back-up open flare; two 1.6 MW Caterpillar engine generator sets; gas conditioning equipment, a building to house the generators and associated interconnection and metering devices.

The project is located at 9560 Heritage Road in Clinton, Illinois 61727 in Dewitt County.

1.4 Level of assurance

The review of project documentation and the subsequent follow-up interviews should provide TÜV SÜD with sufficient evidence to determine the fulfilment of all defined criteria set for registration under the Voluntary Carbon Standard Guidelines 2007.1.

The project activity shall demonstrate, based on applied methodology that it is not a likely baseline scenario and hence emission reductions attributable to the project are additional to any that would occur in the absence of the project activity. With project implemented as designed, the estimated emission reductions as specified in the final project documents version is likely to be achieved.

2 Methodology

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the "Clean Development Mechanism Validation and Verification Manual" version 01. The work starts with appointment of team covering the technical scope(s), sectoral scope(s) and relevant host country experience for evaluating the VCS project activity. Once the project is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up actions, resolution of issues identified and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control by the CB "climate and energy" before submission to the PP.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. TÜV SÜD developed methodology-specific checklists and protocol customised for the project. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

It organises, details and clarifies the requirements a VCS project is expected to meet;

It ensures a transparent validation process where the assessment team will document how a particular requirement has been validated and the result of the validation and any adjustment made to the project design.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

The completed validation protocols are enclosed in Annex 1a – Validation Protocol applicable to ACM0001 Version 10 and Annex 1b – Validation Protocol applicable to Tool for demonstration and assessment of additionality Version 5.2 to this report.

Validation Protocol Table 1: Conformity of Project activity and PDD				
Checklist Topic / Question	Reference	Comments	PDD in GSP	Final PDD
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further sub-divided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any Request has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (☑), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CR) is used when the validation team has identified a need for further clarification. Forward action request to highlight issues related to project implementation that require review during the first verification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.</i>

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	Ref. to table 1	Summary of project owner response	Validation team conclusion
<i>If the conclusions from table 1 are either a Corrective Action, a Clarification or a Forward action Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the issue is explained.</i>	<i>The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the discussion on and revision to project documentation together with the validation team's responses and final conclusions. The conclusions should be reflected in Table 1, under "Final PDD".</i>

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests			
Clarifications and corrective action requests	Id. of CAR/CR 1	Explanation of the Conclusion for Denial	
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion with a clear reference to the requirement which is not complied with.</i>	

2.1 Review of Document

A first version of the VCS PD was submitted to the DOE in April 2009. The first PD version submitted by the PP and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility and interpretation of the presented information, furthermore a cross check between information provided and information from other sources (if available) have been done as initial step of the validation process. A complete list of all documents and proofs reviewed is attached in Annex 2 to this report.

2.2 Follow-up Interviews

On 22 April 2009 TÜV SÜD performed interviews and physical site inspection with project stakeholders to confirm relevant information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

Name	Organisation
Adam Stein (Emission Reduction Project Manager)	TerraPass, Inc.
Edwin Ingalls (Dewitt Energy General Manager)	DeWitt Energy Associates, LLC
Ryan Ingalls (Dewitt Energy Plant Operator)	DeWitt Energy Associates, LLC

2.3 Resolution of any material discrepancy

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD's positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the validation protocols in Annex 1a and 1b.

The final VCS PD that was submitted in October 2009 serves as the basis for the final assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a VCS project based on the two main objectives, i.e. to achieve a reduction of anthropogenic GHG emissions and to contribute to a sustainable development.

3 Validation Findings

3.1 Project Design

The following description of the project as per VCS PD could be verified during the on-site visit.

The project will reduce methane emissions that will be released partially to the atmosphere in the Clinton Landfill # 2 through expansion of the gas collection system to capture and destroy the LFG via the combustion engines. Prior to project activity, the landfill gas management system collected gas and destroyed it in an open flare with a flow capacity of 550 scfm to maintain suction on the well field and maintain compliance with state and federal regulations. The expansion of the system for electricity generation allows the combustion equipment to draw gas at an average of 1,100 to 1,200 scfm to power two 1.6 MW generators. The project activity seeks credit for voluntary emission reductions over and above the compliance system.

The technology used in the project consists of landfill gas conditioning skid,

blowers, two engine-generator sets, meters and recorders to monitor project activity and building to enclose the generator sets.

The project is an expansion of the existing gas management system for electricity generation.

The project is owned and operated by DeWitt Energy Associates, LLC. The project receives gas from Clinton Landfill, Inc., a private landfill operator that owns and operates the Clinton Landfill, including the associated well field and gas collection system. Clinton Landfill has no direct involvement in the operation or ownership of the project, other than to deliver gas to the project site.

DeWitt Energy Associates, LLC signed a contract with Royal Energy Resources, Inc (for Clinton Landfill No. 2) for rights to develop an energy project using landfill gas in February 2004 (IRL 12). The project achieved commercial operation in 24 January 2007. The crediting period is proposed to last for 10 years starting 01 July 2009. The crediting period did not coincide with project start because project monitoring was not compliant with VCS requirements during the first years of operation.

On meeting the requirements of VCS 2007.1 on start date and crediting start date, the project proponent provided proof of contract with a different validation team dated 31 October 2008 (IRL 32) and proof of acceptance by VCS Association that such contract is compliant with VCS requirements even if the proof of contracting applies to a different entity than the party performing the validation work (IRL 41).

The project has not participated in another emission trading programme and has not been rejected under other GHG programme.

The information presented in the project description on the technical design is consistent with the actual planning and implementation of the project activity as confirmed by:

- review of data and information (see annex 2), cross check the same with other sources if available.
- An on-site visit has been performed and relevant stakeholder and personnel with knowledge of the project were interviewed, in case of doubt further cross checks through additional interviews have been done.
- Finally information related to similar projects or technologies as the project activity have been used if available to confirm the accuracy and completeness of the project description.

In light of the above, TÜV SÜD confirms that the project description as included to the VCS PD is sufficiently accurate and complete in order to comply with the requirements of the VCS.

3.2 Baseline

A. Applicability of the selected methodology

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology “Consolidated baseline and monitoring methodology for landfill gas project activities, ACM001, Version 10” has been demonstrated.

The assessment was carried out for each applicability criteria and included among others the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures. This assessment also included the review of secondary sources which sustain that applicability conditions are complied with.

The Methodology specific protocol included to the Annexes 1a and 1b document the assessment process, including the steps taken. The results on the compliance check as well as the relevant evidence are explicitly presented in annexes 1a and 1b.

TÜV SÜD confirms that the chosen baseline and monitoring methodology is applicable to the project activity.

Emission sources which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified.

B. Project boundary

The project boundary was assessed in the context of physical site inspection, interviews, and on the secondary evidence received on the design of the project.

The spatial extent of the project boundary comprises the landfill, landfill gas capture system, generators and the open flare. The generated electricity is sold to the local grid however, displacement of fossil fuels resulting from this activity is not included in this project. The most relevant documentation assessed in order to confirm the project boundary are following:

- Illinois Environmental Protection Agency Construction permit (IRL 21)
- Self-certification of qualifying facility status for a proposed small power production facility (IRL 27)
- Project boundary correspondence (IRL 45)

Hence TÜV SÜD confirms that the identified boundary and the selected sources and gases as documented in the PDD are justified for the project activity.

C. Baseline Identification

In the project document the following baseline scenario has been defined:

Landfill gas is partially captured and subsequently flared. In the absence of the project activity, the operation of the existing landfill gas collection system and flare shall be continued to maintain compliance with the regulation, "Title 35: Environmental Protection, Subtitle B: Air Pollution. Chapter I: Pollution Control Board, Subchapter c: Emission standards and limitations for stationary sources Part 220 Nonmethane Organic Compounds" or otherwise known as "35 Illinois Administrative Code (IAC), Part 220".

The information presented in the VCS PD has been validated by a first document review of all the data, further confirmation based on the on-site visit and a final step by cross checking the information with similar relevant projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was cross-checked based on verifiable and credible sources, such as:

- 2004 Annual Facility Report per 35 Il. Adm. Code 813.504 and Gas Monitoring Report for Clinton Landfill 2 (IRL 20)
- Title V- Clean Air Act Permit Program (CAAPP) Permit and Title I Permit - Clinton Landfill # 2 (IRL 24)

TÜV SÜD has determined that no reasonable alternative scenario has been excluded.

Based on the validated assumptions on calculations TÜV SÜD considers that the identified baseline scenario is reasonable.

TÜV SÜD confirms that all relevant VCS requirements, including relevant and / or sectoral policies and circumstances, have been identified correctly taken into account in the definition of the baseline scenario.

A verifiable description of the baseline scenario has been included to the PD.

D. Additionality

The additionality of the project has been presented in the PD using the VCS additionality project test (http://www.v-c-s.org/docs/Voluntary%20Carbon%20Standard%202007_1.pdf) in combination with the Tool for the demonstration and assessment of additionality version 5.2 (<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v5.2.pdf>). The project test includes Step 1: Regulatory surplus; Step 2: Implementation barriers (investment barrier) and Step 3: Common practice. In VCS Step 2 and Step 3 the benchmark analysis and common practice analysis of the Additionality Tool are used, respectively.

The approach use in the VCS PD has been assessed first based on a document review, where following relevant documents have been reviewed:

- Investment Analysis, Clinton Landfill 2 Project (IRL 4) showing in a clear and transparent manner the investment costs, the revenues (other than

VSC project) considered, as well as the Internal Rate of Return with and without the project activity.

- Landfill gas purchase agreement between DeWitt Energy Associates, LLC and Royal Energy Resources, Inc showing that carbon credits were considered prior to project start (IRL 48).
- Environmental permits (IRL18, IRL 19, IRL 24 and IRL 40)

On site the additionality has been discussed principally with: Adam Stein, emission reduction project manager.

Finally the data, rationales, assumptions, justifications and documentation provided have been checked using local knowledge and sectoral and financial expertise. This information was confirmed through the following documentation:

- Commercial operation date (IRL 34)
- PPA Sales – DeWitt Renewable Energy Facility, Clinton, IL (IRL 15)
- Annex 6 of VCS Project Document: Clinton Landfill #2 Gas Collection and Combustion Project Version 1.45 (IRL 31)

Based on this validation steps we can confirm that the documentation assessed is appropriate for this project.

D.1 Regulatory test

The regulatory test requires that the project is not mandated by any enforced law, statute or other regulatory framework to reduce GHG emissions. In the US there are no mandatory regulations requiring reduction of GHG emissions.

The US Clean Air Act however, requires installation of gas collection and combustion system to maintain compliance with air regulation specifically stipulated under:

- Emission Guidelines and Standards of Performance for MSW landfills (EG & NSPS)
- 40 CFR Part 60, Subparts Cc (<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=15fd70fb2bfbbdd4ac707713617fe1e0&rqn=div6&view=text&node=40:6.0.1.1.1.6&idno=40>)
- 40 CFR Part 60, Subpart WWW (<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=f00db0d5f7157425ca1d835392face10;rqn=div6;view=text;node=40%3A6.0.1.1.1.88;idno=40;cc=ecfr>)
- 35 Illinois Administrative Code (IAC), Part 220 – Emission Standards and Limitations for Stationary Sources – Nonmethane Organic Compounds

(<http://www.ipcb.state.il.us/SLR/IPCBandIEPAEnvironmentalRegulations-Title35.asp>)

The project document demonstrates that baseline scenario is partial release of gas due to mandatory landfill gas capture or destruction requirements because of safety issues and local environmental regulations. The project proponent took into account the capture of methane generated in the baseline in accordance with ACM 0001, Version 10.

D.2 Implementation Barriers

The project proponent chose investment barrier. Project faces capital or investment return constraints that can be overcome by the additional revenues associated with the generation of VCUs. Step 2 of “Tool for the assessment and demonstration of additionality” – Benchmark Analysis was adopted.

The parameters used in the financial calculations have been validated based on a revision of the sources presented in the project document. The following parameters had been crosschecked:

1. Equity IRR for benchmark analysis of 15 percent was based on average rate of return for most types of landfill gas to energy projects compiled by the US Environmental Protection Agency (IRL 43). Compilation of USEPA indicates that desired rate of return (ROR) ranges from 12% TO 18% for most types of power projects. Outside equity investors generally expect a ROR of 15% to 20% or more depending on the project risk profile. The portion of project investment cost that is financed by equity is 77%. As the ROR reflects the early-stage of investment situation where project risks are typically higher, the 15% equity IRR is considered adequate.
2. O&M cost of US\$0.015/kWh was based on project owner’s pro forma planning documents (IRL 47). The O&M escalator was based on the average inflation rate. Ten years prior to financial closure, the inflation rate averaged 2.5% per year (IRL 49).
3. Renewable Energy Credit Price of US\$ 5 was verified against the REC prices indicated in the PPA Sales invoice of DeWitt Renewable Energy Associates, LLC to Ameren (IRL 15). The invoice was dated 01 March 2007, two months after the project start date. This is consistent with the pro forma financial planning tool the developers used to model the project.
4. The gas license payment was based on the actual purchase agreement between the project developers and the landfill operator at the time of closure, starting at US\$9.79 per engine per operating hour in 2007 to US\$10.25 per engine operating hour in 2008 and 2008 (IRL 48).
5. Electricity prices were taken from power purchase agreement between Ameren Energy Marketing Company and DeWitt Energy Associates, LLCs entered into last August 2005 starting at US\$0.0350 per kWh during the first year of operation (IRL 44, CONFIDENTIAL). The electricity price indicated

in the PPA Sales invoice of DeWitt Renewable Energy Associates, LLC to Ameren is consistent with the power purchase agreement (IRL 15).

The financial calculation has been completely checked, all the calculations files were checked and no mistakes have been found. Hence it can be confirmed that the calculations are correct.

D.3 Common practice analysis

The project region for the common practice analysis has been defined as State of Illinois in the United States of America. The project activity's technology can be found in different country regions, where different situations can appear. Hence the region has been defined taken into account the kind of technology and the industry type. The assessment team has revised the approach presented in the project document and can confirm that the relevant parameters such as location, scale, comparable environment with respect to regulatory framework, investment climate, access to financing have been taken into account in order to define the region to be used for the common practice.

The assessment team has revised official sources such as U.S. EPA's Landfill Methane Outreach Program (LMOP) database (<http://www.epa.gov/lmop/proj/xls/opprslmopdata.xls>). This information confirms that the list of similar projects presented in the VCS PD is complete.

All similar projects that are not a VCS project have been checked firstly by a review of all documents provided in Annex 6 of the VCS PD. Furthermore the essential distinctions between these projects and the VCS project under validation have been confirmed using Annex 6- Analysis of Common Practice in the VCS PD for South Barrington Landfill and the financial analysis division staff report to the commission (<http://www.icc.illinois.gov/downloads/public/edocket/217458.pdf>) indicating that South Barrington LFGE project was ensured a long term price for its electricity pegged to retail prices making it more financially viable. Unlike South Barrington LFGE project, the price paid for electricity generated by the Clinton landfill project was negotiated wholesale rate.

Hence it can be confirmed that the proposed VCS activity is not a common practice in the defined region.

3.3 Monitoring Plan

The monitoring plan presented in the PDD complies with the requirement of the methodology. The assessment team has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant for the project activity have been found in the plan.

The procedures have been revised by the assessment team through document review and interviews with the relevant personnel; this information together with a physical inspection allows the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The major

parameters to be monitored have been discussed with the PPs especially regarding the location of the meters, the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project.

The amount of landfill gas combusted in the power plant ($LFG_{\text{Electricity},y}$) is measured on a continuous basis using a flow meter. Data are logged and entered into a custom software tool which aggregates the data in an online database and generates periodic reports. Data are to be aggregated monthly and yearly. Data will be submitted to TerraPass Inc. in electronic format on a quarterly basis. TerraPass Inc. performs the additional quality assurance check, resolve quality issues as needed and store the data in a standardized database format for use in calculating emission reduction. Calibration of measuring instrument shall be implemented by a factory authorized technician on an annual basis.

Hence it is expected that the PPs will be able to implement the monitoring plan and the emission reductions achieved can be reported ex-post and verified.

3.4 Calculation of GHG Emissions

Baseline Emissions

TÜV SÜD has assessed the calculations of project emissions, baseline emissions and leakage and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets. The parameters and equations presented in the VCS PD and further documentation have been compared with the information and requirements presented in the methodology and respective tools. The equation comparison has been made explicitly following all the formulae presented in the calculation files.

The calculation of the baseline emissions followed the procedures described in the methodology ACM0001 Version 10. This methodology requires the use of the “Tool to determine methane emissions avoided from disposal of waste at the solid waste disposal site, version 4 (<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-04-v4.pdf>) which shows the calculation to estimate the amount of methane produced by the landfill in the absence of the project activity, through the multiphase first order decay model.

The adjustment factor AF is 32.1 percent. There is a legal requirement to install a gas collection system and flare to control non-methane organic compounds to comply with federal and state requirements. The assessment team has validated this information according to 35 Illinois Administrative Act Part 220. AF was calculated based on the baseline destruction efficiency (ϵ_{BL}) of 16.1 percent and destruction efficiency by the project activity (ϵ_{PR}) of 50 percent. $\epsilon_{PR,y}$ shall be determined annually during the crediting period. The baseline destruction efficiency was calculated from the amount of methane destroyed historically measured (MD_{Hist}) for the previous year before the start

of the project (in 2006). The destruction efficiency of the baseline system (ϵ_{BL}) is 16.1 percent

Since no emission reduction is claimed for the fossil fuel or electricity displacement, the baseline emissions of the industries involved are not considered in the baseline Emissions estimation.

The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD.

The values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

The baseline methodology has been correctly applied following the requirements.

Project Emissions

The identified project emissions are project emissions from flaring and project emissions from electricity consumption. Project equipment will be powered by the electricity generated by the project except during times that the engines are maintained or repaired.

Regarding the emission factor, a default value of 1.3 tCO₂/MWh will be used to calculate project emissions from electricity consumption. This default value is correctly applied since the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”, version 1 (<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-05-v1.pdf>) mentions that the value can be applicable to project emissions from electricity consumption from the grid (Scenario A, option A2,a)). Also a default value of 20% will be used to determine the average technical transmission and distribution losses, as stated in the followed methodology.

The project activity will not require the use of other fossil fuel, thus they are not considered in the calculations.

The project emissions from the flare will be calculated with the “Tool to determine project emissions from flaring gases containing methane” through a continuous monitoring of the methane destruction efficiency calculations.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD. The values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

Detailed information on the verification of the parameters used in the equations can be found in Annexes 1a and 1b.

Leakage

No leakage emissions are to be taken on account in this methodology.

Emission Reductions

In summary, the calculation of the baseline emissions; project emissions, and the emission reductions, respectively, can be considered as correct.

3.5 Environmental Impact

US federal and State of Illinois environmental regulations do not require the conduct of an environmental impact assessment. The VCS PD has included all the permits and licenses required as listed below:

1. Illinois Environmental Protection Agency (IEPA) Construction permit to DeWitt Energy dated 15 March 2005
2. Department of Planning and Development Building Permit 23 February 2005
3. The IEPA Dept. of Air issued permit No. 039808AAE on May 18, 2005 for operation of the generators, pursuant to 40 CFR 52.21 (b)6; 35 IAC 203.112 and 203.136; Illinois Administration code 2116130; and Sec. 39.5(1) of Illinois
4. The Federal Energy Regulatory Commission granted permit no. QF-07-64-000 under Federal Energy Regulatory Act 556: self-certification of qualifying facility status for a proposed small power generation facility.
5. Landfill currently operates under IEPA Permit No. 0398080007 issued 25 August 2008 and expiring 1 August 2012.

3.6 Comments by stakeholders

The project proponent conducted meetings with local zoning board, association of local business leaders, Central Illinois Mayor's association and local press appearance to explain the project, respond to questions related to the project. The outreach effort did not yield any significant feedback from the community. The project was regarded as uncontroversial and positive to community development.

4 Validation conclusion

TÜV SÜD has performed a validation of the following proposed VCS project activity:

“Clinton Landfill #2 Gas Collection and Combustion Project”

Standard auditing techniques have been used for the validation of the project.

Methodology-specific checklists and protocol customised for the project have been prepared to carry out the audit and present the outcome in a transparent and comprehensive manner.

The review of the project design documentation, the subsequent follow-up interviews and the further cross check of references have provided TÜV SÜD with sufficient evidence to determine the fulfillment of stated criteria in the protocol. In our opinion, the project meets all relevant VCS requirements. Hence TÜV SÜD will recommend the project for registration by the VCS Board.

An analysis as provided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

Based on review of recognized registries of VER standards and an analysis of Internet sources, TÜV SÜD has not detected indications that the same project activity is included to other standards or schemes intended to generate Voluntary Emission Reductions or renewable energy certificates. This was furthermore confirmed in writing by the project participants (IRL 51). Nonetheless, as double counting cannot be fully excluded based on the assessment carried, TÜV SÜD refrains from any liabilities related to the potential double counting of carbon rights.

The ownership of the carbon rights are considered to be held by the project participant. This conclusion has been reached based on the fact that the participant (IRL13) is operator of the plant resulting in the emission reductions. This was sustained by the landfill gas purchase agreement between DeWitt Energy Associates, LLC and Royal Energy Resources, Inc for Clinton Landfill No. 2 (IRL48) and Clinton Landfill 2 Permit No. 1996-102-LFM to develop and operate the landfill (IRL 40). However, as the holding of carbon rights may be impacted by other legislation or contracts not subject to the audit service, TÜV SÜD refrains from any liabilities related to the legal holding of carbon rights.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed following the VVM requirements. The only purpose of this report is its use during the registration process as part of the VCS project cycle.

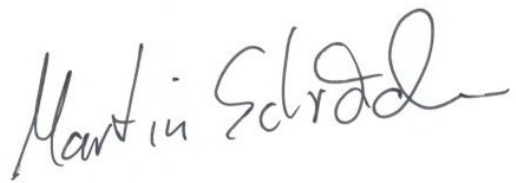
Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

Munich, 12-11-2009



Thomas Kleiser
Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 12-11-2009



Martin Schröder
Assessment Team Leader
TÜV SÜD Industrie Service GmbH

Annex 1a - Validation Protocol

Project Title: Clinton Landfill #2 Gas Collection and Combustion Project

Date of Completion: 12 November 2009

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A. General description of project activity				
A.1. Title of the project activity				
- Does the used project title clearly enable to identify the unique VCS activity?	1	Yes. The project title "Clinton Landfill #2 Gas Collection and Combustion Project" clearly identify the unique project activity.	☒	☒
- Are there any indication concerning the revision number and the date of the revision?	1	Yes. VCS PD Version 1.1 dated March 12, 2009 The final PD submitted is Version 1.51 dated 12 November 2009	☒	☒
- Is this consistent with the time line of the project's history?	1, 32	The project achieved financial closure on December 20, 2005. Commercial operation started Feb 2007. A contract was entered into for project validation according to VCS standard was established last October 31, 2008. The PP is requesting the crediting period will start May 1, 2009. <u>Clarification Request No. 1.</u> 1. Provide proof of contracting on October 31, 2008 and reason for the termination of contract. 2. Explain why crediting period does not coincide with start of project operation. Provide proof of start of commercial operation. During on-site audit, PP provided e-mail from VCS confirming that project is eligible to proceed with validation contract entered into before 19 Nov 2008. Proof of contracting was shown. The crediting period (May 2009) does not coincide with the project start (Feb 2007) because monitoring equipment compliant to monitoring requirements of methodology are not installed. Update start of crediting period	CL No. 1	☒

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A.2. Description of the project activity				
Is the description delivering a transparent overview of the project activities?	1	Yes, the overview of the project activity is transparent. The project activity will introduce additional equipment to improve capture and destruction of methane from existing system that partially releases the LFG gas to meet federal/state/local regulations. <u>Corrective Action Request No.1.</u> Describe landfill waste design capacity in the PD.	CAR No. 1	☒
What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 32, 27	<u>Clarification Request No. 2.</u> During on-site visit provide the following: 1. On guidance by VCS secretariat on project boundary, proof or personal correspondence with acting VCS Program Manager on Feb 5, 2008 as indicated in the PD. 2. Diagram (map) of collection system showing gas extraction devices including proposed site for future collection expansion and locations of any areas excluded from collection. Delineate the added equipment for project activity. 3. Provide feasibility study report for the project activity 4. Submit the project schedule including the tasks already realized During the on-site visit the following were shown/provide: Guidance by VCS secretariat, map showing collection system; proofs of project start date. 5, 2008 as indicated in the PD. In Section 7 of the PD indicate month project monitoring will start and project activity VCS revalidation	CL No. 2	☒

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- Is the information provided by these proofs consistent with the information provided by the PDD?	1, 16, 29	Yes	☒	☒
- Is all information presented consistent with details provided by further chapters of the PDD?	1, 16, 29	Yes	☒	☒
- Which project category as part of a GHG program that has been approved by the VCS Board was chose? Is it specified if the project is a grouped project?	1	The project activity falls under Sectoral Scope 13 – Waste Handling and Disposal under Clean Development Mechanism. This is not a grouped project.	☒	☒
- Are the conditions before project start adequately described?	1	<u>Corrective Action Request No.2.</u> The PD is not clear on the total amount of waste in place prior to project start. Provide information	CAR No. 2	☒
A.3. Project participants				
- Is the form required for the indication of project participants correctly applied?		The form is not applicable for VCS project. Section 1.15 of PD list the project participants and their roles as follows: <u>Project owner:</u> DeWitt Energy Associates, LLC Edwin Ingalls, General Manager, eingalls@edgewater.net.com <u>Project proponent, developer of the PD, and purchaser of the credits:</u> TerraPass, Inc. Adam Stein, Senior Project Manager, Carbon Management Services, adam@terrapass.com	☒	☒
- Is the participation of the listed entities or Parties confirmed by each one of them?	1, 12, 13	The PDD indicated that a contract exist between the project participants. To be verified during on-site visit. <u>Clarification Request No. 3.</u> 1. Submit documentation where the entities involved	CL No 3	☒

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		confirm their participation in the project (i.e., between Dewitt Energy and TerraPass). 2. Clarify difference between project owner and proponent. Who is the landfill operator The PP submitted the Landfill Gas Purchase Contract between DeWitt Energy Associates, LLC and Royal Energy Resources, Inc. for Clinton Landfill No. 2 and the Verified Emission Reductions Consignment Agreement between TerraPass, Inc. and DeWitt Energy Associates LLC		
Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1, 12, 13	To be further verified during on-site visit. Annex 1 is not applicable for VCS PD. Information on participants should be provided in Section 1.15 and Section 8.	☒	☒
A.4. Technical description of the project activity				
<i>Location of the project activity</i>				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1, 22	<u>Clarification Request No. 4.</u> Label project site clearly on the map provided. GPS coordinates do not match with the CAAP report. Identify at which part of the project site coordinates were taken. PP confirmed that coordinates given in PD is in the center of the landfill site.	CL No. 4	☒

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A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1	<u>Corrective Action Request No.3.</u> PD is not clear on the ownership/operation of the Clinton Landfill # 2 and the interfacing between the landfill owner and project proponent (i.e., Dewitt Energy) during implementation of project activity.	CAR No. 3	☒
<i>Category(ies) of project activity</i>				
A.4.2.1. To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1, 5	Yes, the project category is correctly identified and indicated in Section 1.2 of the PD. The project type is waste handling and disposal. The baseline and monitoring methodology used is CDM Methodology- ACM0001 Version 9.1 (Scope 13) - Consolidated baseline and monitoring methodology for landfill gas project activities. <u>Corrective Action Request No.4.</u> Revise PD according to the latest version of the methodology ACM0001 Version 10.	CAR No. 4	☒
<i>Technology to be employed by the project activity</i>				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1	Yes, the PD describes that the project activity complies with environmental regulations, reduces GHG emissions and recovers energy for electricity generation. The technology will enhance the capacity to collect gas. The technical design shall be verified during on-site visit. See CL No. 2	See CL No. 2	☒

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		The design was checked during on-site visit		
A.4.3.2. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1	Yes, there is a complete and transparent description of the technology applied under the project activity in the PD. The type of technology employed and its capacity shall be corroborated during on-site visit. See CL No. 2 The design was checked during on-site visit	See CL No. 2	☒
A.4.3.3. Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(ies)?		No, technology implemented is from the host country.	☒	☒
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	21, 22, 23, 24, 25, 26, 28	The PD indicates compliance to environmental regulations. Information provided in the PD shall be checked during on-site visit. Checked during on-site visit.	☒	☒
A.4.3.5. Is the information provided in compliance with actual situation or planning?	21, 22, 23, 24, 25, 26, 28	To be corroborated during on-site visit. See CL No. 2. Checked during on-site visit	See CL No. 2	☒
A.4.3.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	21, 22, 23, 24, 25,	The project proposes to improve LFG collection and methane destruction over and above those achieved by the gas collection system in the baseline scenario. The baseline scenario is continuous operation of an active methane recovery and destruction system to maintain compliance with 35 IAC, Part 220.	☒	☒

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	26, 28			
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?		No, the technology selected is not likely to be substituted within the crediting period. To be confirmed during on-site visit. Confirmed during on-site visit	☒	☒
A.4.3.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1	Yes, implementation of project activity requires qualified personnel. <u>Clarification Request No. 5.</u> 1. Provide during on-site visit: training, operation, maintenance and quality control procedures and monitoring program/plan. 2. Describe capacity building conducted to realize project activity GHG monitoring, maintenance and reporting requirements. During on-site visit procedures that require personnel training were submitted.	CL No. 5	☒
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1, 29, 30, 35	See CL No. 5	See CL No. 5	☒
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?		Yes, schedule is available. Project activity is already implemented	☒	☒

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<i>Estimated amount of emission reductions over the chosen crediting period</i>				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1	Yes. Section 1.3 presents the emission reduction per year during the crediting period, the total GHG emission reduction and the annual average. <u>Clarification Request No. 6.</u> Provide source of emission reduction calculation in Section 1.3 of PD	CL No. 6	☒
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?		Yes, the figures shown in Section 1.3 are consistent with other figures presented in the PDD.	☒	☒
A.4.4.3. Is it a: a) micro project (less than 5,000 tonnes CO2 equivalent emission reductions per year) or is it a b) mega project (more than 1,000,000 tonnes CO2 equivalent emission reductions per year)?		The project does not concern to any of the categories described (micro project neither mega project) The estimated average emission reduction of the project activity is 93,520 tCO2e per year. The project crediting period will start 01 July 2009 and end 30 June 2018 for a total of ten years.	☒	☒
<i>Public funding of the project activity</i>				
A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?		No, there is no public funding.	☒	☒
A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?		Yes, it is consistent. Annex 2 is not applicable under VCS PD	☒	☒
<i>Compliance with relevant local laws and regulations related to the project</i>				
A.4.6.1. Does the VCS PD include identification of relevant local laws and regulations related to	21, 22, 23, 24,	Yes, Section 1.10 of the PD identified relevant local laws and regulations related to the project.	☒	☒

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the project and demonstration of compliance with them?	25, 26, 28	On Landfill, permits issued from Illinois Environmental Protection Agency (IEPA) are operating permits, and land, air and water bureaus. For the proposed project activity: permits issued from IEPA are building and construction permit; permit for engine emissions; and air permit under Clean Air Act. The Federal Energy Regulatory Commission also granted permit on self-certification of qualifying facility status for a proposed small power generation facility.		
<i>Identification of risks that may substantially affect the project'</i>				
A.4.7.1. Are risks that may affect the project activity identified and explained in an adequate manner?		Yes, in Section 1.11 in the PD there is information on risks that could affect the project	☒	☒
<i>Demonstration to confirm that the project was not implemented to create GHG emission reductions primarily for the purpose of its subsequent removal or destruction</i>				
A.4.8.1. Is it confirmed in the document that the project was not implemented to create GHG emission reductions primarily for the purpose of its subsequent removal or destruction?		Yes, Section 1.12 of the PD confirms that the project was not implemented primarily to create GHG emission reductions. The statement was checked on-site	☒	☒
<i>Demonstration that the project has not created another form of environmental credit (for example renewable energy certificates)</i>				
A.4.9.1. If the project has created another form of environmental credit: Is a letter provided from		Section 1.13 of the PD indicates that the project activity creates renewable energy certificates (RECs). . The RECS are pur-	☒	☒

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the program operator that the credit has not been used and has been cancelled from the relevant program?		chased by Ameren, the alternative retail energy supplier that also purchases the generated electricity. The methane destruction credits are separated from the indirect reductions from grid power sales.		
<i>Projects rejected under other GHG programs (if applicable)</i>				
A.4.10.1. Projects rejected by other GHG programs can be considered. If this is the case it shall be: a) clearly stated in the VCS PD: all GHG programs for which the project has applied for credits and why the project was rejected (no commercially sensitive information, see A.17). b) provision of the VCS verifier and registry with the actual rejection document(s) including explanation. c) If the project was validated against VCS program requirements.		The project has not been rejected under other GHG program.	☒	☒
<i>Project proponents roles and responsibilities including contact information of the project proponent, other project participants</i>				
A.4.11.1. Are project proponents roles and responsibilities (contact information and other participants) included in the document?		Yes, complete information of project proponents is provided in Section 1.15 of the PD. Project owner: DeWitt Energy Associates, LLC Edwin Ingalls, General Manager, eingalls@edgewaternet.com Project proponent, developer of the PD, and purchaser of the credits: TerraPass, Inc. Adam Stein, Senior Project Manager, Carbon Management Services, adam@terrapass.com	☒	☒

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<i>Further Information</i>				
A.4.12.1. Have information that are relevant for the eligibility of the project and quantification of emission reductions or removal enhancements, including legislative, technical, economic, sectoral, social, environmental, geographic, site-specific and temporal information been included in the document.		Yes, the consideration about eligibility (Section 1.2 and 1.4); quantification of emission reduction (Section 1.3 and 4.3); removals enhancements (Section 1.8); legislative (Section 1.10); technical (Sections 1.9 and 3); economic (Section 2.4); sectoral, social, and environmental (Section 5); geographic (Section 1.5); site-specific (Section 1.5) and temporal information (section 7) have been addressed in the PD.	☒	☒
<i>Commercially sensitive Information (if applicable)</i>				
A.4.13.1. Is commercially sensitive information that has been excluded from the public version of the VCS PD (that will be displayed on the VCS Project Database) listed?	1, 2, 3, 4	Yes. The following information is proprietary and confidential as indicated in Section 1.17 of the PD: - Detailed spreadsheet models relevant to ACM0001, developed by TerraPass; - Financial additionality spreadsheets including screenshots and backup data and any discussion of the actual or pro forma payments or costs to DeWitt Energy Associates; - Contract between DeWitt Energy Associates and TerraPass. The above documents were provided during on-site visit	☒	☒
B. Application of a baseline and monitoring methodology				
B.1. Title and reference of the approved baseline and monitoring methodology				
B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?		Yes, methodology used is clearly indicated. CDM Approved Consolidated Baseline Methodology ACM0001 Version 9.1, "Consolidated baseline and monitoring methodology for landfill gas project activities."		
B.1.1.2. Is the applied version the most recent		No. The version is not the recent one and not applicable.	See	☒

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one and / or is this version still applicable?		See CAR No. 4	CAR No. 4											
B.1.1.3. Is the right VCS program methodology named and an explanation given why this methodology was used? Are information given about methodology deviations or methodology revisions?		See CAR No. 4	See CAR No. 4	☒										
B.2. Justification of the choice of the methodology and why it is applicable to the project activity														
B.2.1.1. Is the applied methodology considered the most appropriate one?		Yes, the methodology is appropriate. The project activity foresees the introduction of landfill gas capture system where the baseline is the partial release of the gas and the project includes energy production and gas flaring.	☒	☒										
Criterion: The gas and the project activity include situations such as: a) The captured gas is flared; and/or b) The captured gas is used to produce energy (e.g., electricity/thermal energy) c) The capture gas is used to supply consumer through natural gas distribution network. If emissions reductions are claimed for displacing natural gas, project activities may use approval methodology AM00053.	1, 5	During the onsite visit the verifier team will corroborate that the project met this criteria. <table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>No*</td></tr><tr><td>Is the option correctly presented and confirmed?*</td><td>No</td></tr></table> *During the on-site visit, the audit team will corroborate if the project meet this criteria The project participant selected option A and B. <u>Corrective Action Request No.5.</u> Justify the choice of the methodology and its applicability based on criteria in ACM0001 and tools mentioned in Section 2.1.	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	No*	Is the option correctly presented and confirmed?*	No	CAR No. 5	☒
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Compliance verified?	No*													
Is the option correctly presented and confirmed?*	No													

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B.3. Description of the sources and gases included in the project boundary														
Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with "No"														
Source: Possible CH₄ emissions from decomposition of waste at the landfill site Description of Source Gas(es): CH₄ Type: Baseline Emissions		<table border="1"> <tr> <th>Boundary checklist</th> <th>Yes / No</th> </tr> <tr> <td>Source and gas(es) discussed in the PDD?</td> <td>Yes</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>Yes</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>Yes</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>Yes</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
Source: Possible CO₂ emissions from electricity consumption Description of Source Gas(es): CO₂ Type: Baseline Emissions		Baseline electricity consumption is assumed to be zero <table border="1"> <tr> <th>Boundary checklist</th> <th>Yes / No</th> </tr> <tr> <td>Source and gas(es) discussed in the PDD?</td> <td>NA</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>NA</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>NA</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>NA</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA	☒	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	NA													
Inclusion / exclusion justified?	NA													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													
Source: Possible CO₂ emissions from thermal energy generation Description of Source Gas(es): CO₂		<table border="1"> <tr> <th>Boundary checklist</th> <th>Yes / No</th> </tr> <tr> <td>Source and gas(es) discussed in the PDD?</td> <td>NA</td> </tr> <tr> <td>Inclusion / exclusion justified?</td> <td>NA</td> </tr> <tr> <td>Explanation / Justification sufficient?</td> <td>NA</td> </tr> <tr> <td>Consistency with monitoring plan?</td> <td>NA</td> </tr> </table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA	☒	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	NA													
Inclusion / exclusion justified?	NA													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													

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Type: Baseline Emissions														
Source: Possible CO₂ emissions from on-site fossil fuel consumption due to the project activity other than for electricity generation Description of Source Gas(es): CO₂ Type: Project Activity Emissions		<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>NA</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA	☒	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	NA													
Inclusion / exclusion justified?	NA													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													
Source: Possible CO₂ emissions from on-site electricity use Description of Source Gas(es): CO₂ Type: Project Activity Emissions	1	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table> On-site electricity use will be provided by the project except during times that the engines are being maintained or repaired. Project emission from grid electricity consumption is assumed to be zero for ex ante calculations and will be monitored for ex post calculations. <u>Clarification Request No. 7.</u> Describe how small the project emissions from electricity consumption are relative to the emissions from methane destruction (see Section 4.4, page 49).	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	CL No. 7	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
Source: Possible CH₄ emissions from active LFG capture and flaring Description of Source		<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>No</td></tr><tr><td>Explanation / Justification sufficient?</td><td>No</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	No	Explanation / Justification sufficient?	No	CAR No. 6	☒		
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	No													
Explanation / Justification sufficient?	No													

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Gas(es): CH ₄ Type: Project Activity Emissions		Consistency with monitoring plan? No		
		<u>Corrective Action Request No.6.</u> According to the methodology, quantity of methane flared with project activity should be measured and included in project emissions. Clarify why methane emissions with project activity is equal to zero. Also include LFG_{flare,y} in data to be monitored.		
- Do the spatial and technological boundaries as verified on-site comply with the discussion provided by/indication included to the PDD?		Yes, verified during on-site visit	☒	☒
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario				
- Is it clearly described that the baseline is the atmospheric release of the gas and the baseline methodology considers that some of the methane generated by the landfill may be captured and destroyed?		Yes, it is clearly described that some of the methane generated by the landfill is captured and destroyed. A landfill gas collection and combustion system was put in place in 1998 to comply with federal and state requirements for the control of NMOCs emissions and surface and subsurface methane. Verified during on-site visit.	☒	☒
- Does the project identify correctly and excludes those options not in line with regulatory or legal requirements?	1, 5, 18	Yes, the project only takes into account options in line with regulation. <u>Clarification Request No. 8.</u> 1. Identify in the PD which scenario satisfies the requirement to include LFG1 and LFG2. 2. Submit source of information on "the system was put in place in 1998 to comply with federal and state requirements." "Illinois Environmental Protection Agency (IEPA) Permit No.	CL No. 8	☒

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		1996-I02-LFM, Modification No. 3, Log. No. 1998-174 – approving modification of an existing municipal solid waste” was submitted but are not clearly describe to justify that the system was put in place in 1998.		
Is correctly describe the situation about the requirement from the authority about the capture and destruction/utilization of the gas produced in the landfill?	20, 22, 23	The PD identified the regulatory and legal requirements associated with the project activity including a series of performance metrics and monitoring criteria from 35IAC to establish whether the system in place is adequate to control NMOC emissions and surface and subsurface methane: <u>Clarification Request No. 9.</u> 1. Clearly indicate that the performance and monitoring criteria are met by Clinton Landfill # 2 to control NMOCs and surface and subsurface methane (from 2006 to 2008 or most recent available). a. Provide annual reports submitted to Illinois EPA substantiating the claim on compliance to the regulatory requirements (2006 to 2008). Include solid waste landfill groundwater, leachate, facility and gas reporting form filed for the Clinton Landfill on April 25, 2008. b. Provide most recent version of all permits issued by IEPA to Clinton Landfill # 2 and DeWitt Energy (related to project activity). c. If not documented in (a) above, provide values of the following monitored parameters as mentioned in page 19: pressure, methane, oxygen, nitrogen and carbon dioxide. Limit to annual average and range (max and min) d. Provide copy of approval of landfill gas collection system issued by IEPA to Clinton Landfill mentioned in page 19 of PD. Also, provide information	CL No. 9	☒

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		on the submitted gas collection and control specification including maximum expected gas flow, flare specification. 2. Indicate clearly on the report how compliance to regulations will be maintained during maintenance or emergency shutdown/failure of the engine-generator sets.		
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):				
- In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		

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- In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		
- Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 5)?		See Validation_Protocol_Additionality_tool_version_5.2_ClintonLandfill2		

B.6. Emissions reductions including parameters and calculations of the “Tool to determine methane emissions avoided from disposal of waste at a waste disposal site”

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<i>Explanation of methodological choices</i>				
B.6.1.1.	Is it explained how the procedures provided in the methodology are applied by the proposed project activity?		Yes, Section 4.1 presents the methodology selected and Section 4.1 address the procedures provided by the methodology to quantify emissions and/or removals for the baseline scenario.	☒ ☒
B.6.1.2.	Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?		Yes, the options are correctly justified in the PD. Options verified during site visit.	☒ ☒
B.6.1.3.	Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		Yes, the formula required are correctly presented.	☒ ☒
B.6.1.4.	Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		Yes, the formula required are correctly presented	☒ ☒
B.6.1.5.	Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?		No leakage effects are accounted.	☒ ☒
B.6.1.6.	Are the formulae required for the determination of emission reductions correctly presented?		Yes, the formula required are correctly presented	☒ ☒
<i>Data and parameters that are available at validation</i>				
B.6.2.1.	Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?		See CRs and CARs presented under this section.	

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B.6.2.2. Parameter Title: Emission factor of the electricity and/or other energy.	1, 10	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table> <u>Corrective Action Request No.7.</u> The title of the methodology is not correct in Section 4.3 of the PD. Also, the Scenario used and how it is applied to the project activity.	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	Yes	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	Yes	Choice of data correctly justified?	No	Measurement method correctly described?	NA	CAR No. 7	☒
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	NA																					
B.6.2.3. <i>Parameter</i> Title: CO2 emission intensity of the thermal energy		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	NA																					
Source clearly referenced?	NA																					
Correct value provided?	NA																					
Has this value been verified?	NA																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
B.6.2.4. Parameter Title:	1		CL No.	☒																		

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Regulatory requirements relating to landfill gas project.		<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table> <u>Clarification Request No. 10.</u> Clearly identify sources of: 1. Regulations applicable to both Clinton Landfill No. 2 and DeWitt Renewable Energy facility. 2. ϕ Model correction factor In the applicable Table in Section 3.3 and Annex, i.e., which table/section	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	NA	Appropriate description of parameter?	Yes	Source clearly referenced?	No	Correct value provided?	NA	Has this value been verified?	Yes	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	10	
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	No																					
Correct value provided?	NA																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
B.6.2.5. Parameter Title: ϕ Model correction factor to account for model uncertainties	1	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>NO</td></tr></table> See CL No. 10 above.	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	Yes	Choice of data correctly justified?	No	Measurement method correctly described?	NO	CL No. 10	☒
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	NO																					
B.6.2.6. Parameter Title: OX Oxidation factor	1, 2	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	CAR 8	☒														
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					

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		<table><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table> <u>Corrective Action Request No.8.</u> 1. Describe type of material used to cover waste in the applicable Table in Section 3.3. 2. Clearly reference source(s) i.e., which table/section. 3. OX does not reflect the type of material used and considered in the calculations.	Data unit correctly expressed?	No	Appropriate description of parameter?	Yes	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	Yes	Choice of data correctly justified?	No	Measurement method correctly described?	NA						
Data unit correctly expressed?	No																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	NA																					
B.6.2.7. Parameter Title: MCF Methane correction factor		<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table> <u>Clarification Request No. 11.</u> Clearly reference source in Section 3.3 of the following parameters: 1. Methane conversion factor, MCF 2. Decay rate of the waste type j, K_j, 3. Fraction of methane in the SWDS gas, F 4. GWP, global warming potential	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	Yes	Has this value been verified?	No	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	CL No.11	☒
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	Yes																					
Has this value been verified?	No																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.8. Parameter Title:			CL No.	☒																		

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Kj, Decay rate for the waste type j		Data Checklist	Yes / No	11	
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	No		
		Correct value provided?	Yes		
		Has this value been verified?	No		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	NA		
		See CL 11			
B.6.2.9. Parameter Title:				CL No. 11	☒
F, Fraction of methane in the SWDS gas					
Data Checklist		Yes / No			
Title in line with methodology?		Yes			
Data unit correctly expressed?		Yes			
Appropriate description of parameter?		Yes			
Source clearly referenced?		No			
Correct value provided?		Yes			
Has this value been verified?		Yes			
Choice of data correctly justified?		Yes			
Measurement method correctly described?	NA				
See CL No. 11.					
B.6.2.10. Parameter Title:				CL No. 11	☒
GWpch4, Global warming potential					
Data Checklist		Yes / No			
Title in line with methodology?		Yes			
Data unit correctly expressed?		Yes			
Appropriate description of parameter?	Yes				

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		<table><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table> See CL No. 11	Source clearly referenced?	No	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA										
Source clearly referenced?	No																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.11. Parameter Title: DCH4, Methane Density		<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table> <u>Clarification Request No. 12.</u> 1. Data unit used for D_{CH4} methane density is not consistent in the PD. 2. Clearly reference source 3. Methane density is not available in reference provided.	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	No	Appropriate description of parameter?	Yes	Source clearly referenced?	No	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	CL No. 12	☒
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	No																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.12. Parameter Title: BECH4, SWDS,y, Methane generation from the land-fill in the absence of the project activity.		<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	☒	☒				
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					

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		Choice of data correctly justified?	NA		
		Measurement method correctly described?	NA		
Ex-ante calculation of emission reductions					
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?		Yes, the projection is based on the same procedures for further monitoring. Clarification Request No. 13. ISO 14064-2 section number indicated in the PD is not correct.	CL No. 13	☒	
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 2, 3	Yes, GHG calculation spreadsheet are mentioned in the PD but will be treated as confidential document. See CL No. 6	See CL No. 6	☒	
B.6.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1, 5	CL No. 6	See CL No. 6	☒	
Summary of the ex-ante estimation of emission reductions					
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?		Yes, the project emissions are lower than the baseline	☒	☒	
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1, 5	Yes, the table on emission reductions are correctly applied	☒	☒	
B.6.4.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1	See CL No. 1 Yes, project activity was implemented. Update project crediting period	See CL No. 1	☒	
B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1	Yes, the data about estimation of emission reduction presented is consistent with other data in the PDD. See CL No. 6	See CL No. 6	☒	
B.7. Application of the monitoring methodology and description of the monitoring plan					
<i>Data and parameters monitored (Note: For questions under this section please refer to Section 3.3 of the PD)</i>					

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B.7.1.1. Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1, 5	<u>Corrective Action Request No.9.</u> Regarding monitoring parameters; a. Include the missing parameters in section B.7.1. b. Include more details on the technology to be employed for measurements (e.g., kind of equipment, manufacturer, accuracy, calibration plan, etc. as necessary. c. Include monitoring and recording frequency as necessary. d. Include QA/QC procedures as necessary	CAR No. 9	☒																										
B.7.1.2. Parameter Title: LFGtotal,y Total amount of landfill gas captured at Normal Temperature and Pressure	1, 5	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> <u>Corrective Action Request No.10.</u> Include total amount of landfill gas captured (LFGtotal,y) and total amount of landfill gas flared (LFGflared,y) in the monitoring plan .	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	CAR No. 10	☒
Monitoring Checklist	Yes / No																													
Title in line with methodology?	No																													
Data unit correctly expressed?	No																													
Appropriate description of parameter?	No																													
Source clearly referenced?	No																													
Correct value provided?	No																													
Has this value been verified?	No																													
Choice of data correctly justified?	No																													
Measurement method correctly described?	No																													
Correct reference to standards?	No																													
Indication of accuracy provided?	No																													
QA/QC procedures described?	No																													
QA/QC procedures appropriate?	No																													
B.7.1.3. Parameter Title:	1, 5		See	☒																										

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LFGflared,y Amount of landfill gas flared at Normal Temperature and Pressure		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	CAR No. 10	
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											
Data unit correctly expressed?	No																											
Appropriate description of parameter?	No																											
Source clearly referenced?	No																											
Correct value provided for estimation?	No																											
Has this value been verified?	No																											
Measurement method correctly described?	No																											
Correct reference to standards?	No																											
Indication of accuracy provided?	No																											
QA/QC procedures described?	No																											
QA/QC procedures appropriate?	No																											
B.7.1.4. Parameter Title LFGelectricity,y Amount of landfill gas combusted in power plant at Normal Temperature and Pressure	1, 5	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	NA	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	☒	☒
Monitoring Checklist	Yes / No																											
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Has this value been verified?	NA																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	Yes																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.5. Parameter Title: LFGthermal,y		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	☒	☒																		
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											

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Amount of methane combusted in boiler at Normal Temperature and Pressure		<table><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA								
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Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.6. Parameter Title: LFGPL,y Amount of landfill gas sent to Pipe Line at Normal Temperature and Pressure		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☒	☒
Monitoring Checklist	Yes / No																											
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Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.7. Parameter Title: Project emissions from flaring of the residual	1, 5, 7		☒	☒																								

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gas stream in year (PEflare,y)		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.8. Parameter Title: wCH4 Methane fraction in the landfill gas	1, 5	Monitoring Checklist	Yes / No	CAR No. 11	☒
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	No		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	No		

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		<table><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table> <u>Corrective Action Request No.11.</u> Correct value and indicate value applied for historical emissions and for ex-ante estimates.	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes																						
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.9. Parameter Title: T Temperature of the landfill gas	1, 5	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> <u>Corrective Action Request No.12.</u> Include temperature and pressure of landfill gas in Section 3.3, Monitored parameters	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	CAR No. 12	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											
Data unit correctly expressed?	No																											
Appropriate description of parameter?	No																											
Source clearly referenced?	No																											
Correct value provided for estimation?	No																											
Has this value been verified?	No																											
Measurement method correctly described?	No																											
Correct reference to standards?	No																											
Indication of accuracy provided?	No																											
QA/QC procedures described?	No																											
QA/QC procedures appropriate?	No																											
B.7.1.10. Parameter Title: P Pressure of the landfill gas	1, 5	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	No	CAR 12	☒																				
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											

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		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.11. Parameter Title: ELLFG Net amount of electricity generated using LFG	1, 5			☒	☒
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		

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B.7.1.12. Parameter Title: ETLFG Total amount of thermal energy generated using LFG		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☑	☑
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Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.13. Parameter Title: Operation of energy plant	1, 5, 17	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	☑	☑				
Monitoring Checklist	Yes / No																											
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Data unit correctly expressed?	Yes																											
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Source clearly referenced?	Yes																											
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Measurement method correctly described?	Yes																											
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		<table><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA																						
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.14. Parameter Title: EF _{fuel} ,BL CO ₂ emission factor of fossil fuel		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
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Source clearly referenced?	NA																											
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Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.15. Parameter Title: NCV _{fuel} ,BL Net calorific value of fossil fuel		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	☒	☒																		
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Correct reference to standards?	NA																									
Indication of accuracy provided?	NA																									
QA/QC procedures described?	NA																									
QA/QC procedures appropriate?	NA																									
B.7.1.16. Parameter Title: ε BL , gen ε Efficiency of the baseline captive power plant		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	☒	☒
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		<table><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	QA/QC procedures appropriate?	NA																								
QA/QC procedures appropriate?	NA																											
B.7.1.17. Parameter Title: <i>ε boiler</i> Efficiency of the baseline boiler for producing thermal energy Option A Use the highest value among the following three values as a conservative approach: 1. Measured efficiency prior to project implementation; 2. Measured efficiency during monitoring; 3. Manufacturer’s information on the boiler efficiency. Option B Assume a boiler efficiency of 100% based on the net calorific values as a conservative approach.		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☒	☒
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Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.18. Parameter Title: Operation of the boiler		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	☒	☒																		
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Has this value been verified?	NA																									
Measurement method correctly described?	NA																									
Correct reference to standards?	NA																									
Indication of accuracy provided?	NA																									
QA/QC procedures described?	NA																									
QA/QC procedures appropriate?	NA																									
B.7.1.19. Parameter Title: PEFC,j,y Project emissions from fossil fuel combustion in process <i>j</i> during the year <i>y</i> .		Not Applicable <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	☒	☒
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QA/QC procedures described?	NA																									

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		<table><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	QA/QC procedures appropriate?	NA																								
QA/QC procedures appropriate?	NA																											
B.7.1.20. Parameter Title: MGPR,y Amount of methane generated during year y of the project activity		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☒	☒
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Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.21. Is the Global Warming Potential going to be monitored at the end of the first commitment period?	1	The project activity is proposed for a single period of 10 years.																										
Description of the monitoring plan																												
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1	No, the operational and management structure is not clearly defined. Corrective Action Request No.13.	CAR No. 13	☒																								

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		1. Identify who has the overall responsibility of data management in the PD, 2. Describe how data will be collected, recorded and stored PD. 3. Add accuracy of each equipment in the table in the PD. 4. Provide information on operation, maintenance and calibration of flow meters, temperature and pressure gauges, portable analyzers and other instruments used for project activity monitoring. The information will be requested as needed during on-site visit.		
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?		See CAR No. 13	See CAR No. 13	☒
B.7.2.3. Does the monitoring plan provide current good monitoring practice?		See CAR No. 13	See CAR No. 13	☒
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?		Annex 4 is not applicable in VCS PD. See CAR No. 13	See CAR no. 13	☒
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)				
B.8.1.1. Is there any indication of a date when the baseline was determined?	1	No. the date is not available <u>Corrective Action Request No.14.</u> Include in the PD the date of baseline determination and the responsible person/party.	CAR No. 14	☒
B.8.1.2. Is this consistent with the time line of the PDD history?		See CAR No. 14	See CAR No. 14	☒

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B.8.1.3. Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?		See CAR No. 14	See CAR No. 14	☒
B.8.1.4. Is information provided whether this person / entity is also considered a project participant?		See CAR No. 14	See CAR No. 14	☒
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
- Are the project's starting date and operational lifetime clearly defined and reasonable?	1	Yes, the project starting date is clearly defined (February 2007). See CAR No. 1 <u>Clarification Request No. 14.</u> 1. Indicate the operational life-time of the project activity 2. Clarify when crediting period and monitoring periods will start.	CL No. 14	☒
- a) Is the project starting date included to the document, means the date on which a financial commitment was made to the project and the project reached financial closure? b) Is the crediting period starting date included means the date the first monitoring period commenced? (VCS project crediting period: A maximum of ten years which may be renewed at most two times.)	1	See CL No. 14 above	See CL No. 14	☒
C.2. Choice of the crediting period and related information				
- Is the assumed crediting time clearly defined and reasonable (renewable crediting period of		Yes, the crediting time is defined and fixed for 10 years.	☒	☒

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max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?				
D. Environmental impacts				
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
- Has the analysis of the environmental impacts of the project activity been sufficiently described?	1	No environmental impact assessment was required. The project proponent has included information on federal, state and local regulations and permits that the project has to comply.	☒	☒
- Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1	No.	☒	☒
- Will the project create any adverse environmental effects?	1	No, the project will not create adverse effects.	☒	☒
- Were transboundary environmental impacts identified in the analysis?	1	No.	☒	☒
D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party				
- Have the identified environmental impacts been addressed in the project design sufficiently?	1	Environmental impact assessment is not required by State and federal regulations		
- Does the project comply with environmental legislation in the host country?	1	The project comply with all other required environmental regulations . Also See Section A.4.3.4 above		
E. Stakeholders' comments				
E.1. Brief description how comments by local stakeholders have been invited and compiled				
- Have relevant stakeholders been consulted?		Yes, the stakeholders will consulted.	☒	☒

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- Have appropriate media been used to invite comments by local stakeholders?		Outreach efforts include, meetings, hosting site visits, presentation to local organizations and officials and press releases.	☒	☒
- If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?		Yes, according to PD the stakeholder process is required by law. Compliance to regulations/laws to be verified during on-site visit.	☒	☒
- Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1	To be verified during on-site visit. <u>Clarification Request No. 15.</u> 1. Clarify how the project participant ensured the effective delivery of the invitation of the stakeholder consultation. 2. Provide minutes of meetings, presentation materials, list of attendees or evidences of stakeholder consultations. 3. Describe outcome of stakeholder consultations and mechanisms for on-going communication included in the document 4. List of stakeholder's comments and how they were taken into account	CL No. 15	☒
E.2. Summary of the comments received				
- Is a summary of the received stakeholder comments provided?		See CL No. 15	See CL No. 15	☒
E.3. Report on how due account was taken of any comments received				
- Has due account been taken of any stakeholder comments received?		See CL No. 15	See CL No. 15	☒

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Table 1a Tool to determine project emissions from flaring gases containing methane

The ACM0001 methodology requires the use of the “Tool to determine project emissions from flaring gases containing methane” to calculate the project emissions from flaring of the residual gas stream (PE_{flare} in tCO_2e). PE_{flare} can be calculated on an annual basis or for the required period of time using this tool.

F. Tool to determine project emissions from flaring gases containing methane												
F.1. Justification of the choice of the tool and why it is applicable to the project activity												
Is the applied tool considered the most appropriate one?		The tool is applied based on the requirements for an open flare (50% default flare efficiency and monitoring of operation)	☒	☒								
Integrate the required amount of sub-checklists on the applicability criteria as given by the applied methodology and comment on at least every line answered with “No”;												
Criterion 1: Is the residual gas stream (RG) containing methane?		<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the PDD?</td> <td>NA</td> </tr> <tr> <td>Compliance provable?</td> <td>NA</td> </tr> <tr> <td>Compliance verified?</td> <td>NA</td> </tr> </tbody> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	NA	Compliance provable?	NA	Compliance verified?	NA		
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	NA											
Compliance provable?	NA											
Compliance verified?	NA											
Criterion 2: Is the residual gas stream (RG) to be flared containing no other combustible gases than methane, carbon monoxide and hydrogen?		<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the PDD?</td> <td>NA</td> </tr> <tr> <td>Compliance provable?</td> <td>NA</td> </tr> <tr> <td>Compliance verified?</td> <td>NA</td> </tr> </tbody> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	NA	Compliance provable?	NA	Compliance verified?	NA		
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	NA											
Compliance provable?	NA											
Compliance verified?	NA											
Criterion 3: Is the residual gas stream (RG) to be flared		<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Applicability checklist	Yes / No								
Applicability checklist	Yes / No											

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obtained from decomposition of organic material (through landfills, bio-digesters or anaerobic lagoons, among others) or from gases vented in coal mines (coal mine methane and coal bed methane)?		Criterion discussed in the PDD?		NA												
		Compliance provable?		NA												
		Compliance verified?		NA												
F.2. Description of the parameters included in the tool																
Integrate the required amount of sub-checklists for parameters as given by the tool applied and comment on at least every line answered with “No”																
- Parameter: $PE_{flare,y}$ Project emissions from flaring of the residual gas stream in year y Unit: tCO_{2e} Type: result		<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Parameter discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>NA</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>			Boundary checklist	Yes / No	Parameter discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA		
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Parameter discussed in the PDD?	NA															
Inclusion / exclusion justified?	NA															
Explanation / Justification sufficient?	NA															
Consistency with monitoring plan?	NA															
- Parameter: $\eta_{flare,h}$ Flare efficiency in hour h based on measurements or default values Unit: - Type: default/result		<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Parameter discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>			Boundary checklist	Yes / No	Parameter discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes		
Boundary checklist	Yes / No															
Parameter discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
- Parameter: $fv_{i,h}$ Volumetric fraction of component i in the residual gas in the hour h where $i = CH_4, CO, CO_2, O_2, H_2, N_2$ Unit: - Type: monitored		<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Parameter discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>NA</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>			Boundary checklist	Yes / No	Parameter discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA		
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Consistency with monitoring plan?	NA															

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- Parameter: $FV_{RG, h}$ Volumetric flow rate of the residual gas in dry basis at normal (NTP) conditions 2 in the hour h Unit: m³/h Type: monitored		<table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>NA</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA		
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Parameter discussed in the PDD?	NA													
Inclusion / exclusion justified?	NA													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													
- Parameter: $t_{O_2, h}$ Volumetric fraction of O2 in the exhaust gas of the flare in the hour h (only in case the flare efficiency is continuously monitored) Unit: - Type: monitored		<table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>NA</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA		
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Parameter discussed in the PDD?	NA													
Inclusion / exclusion justified?	NA													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													
- Parameter to be monitored: $f_{V\ CH_4, FG, h}$ Concentration of methane in the exhaust gas of the flare in dry basis at normal conditions in the hour h (only in the case the flare efficiency is continuously monitored) Unit: mg/m³ Type: required		<table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>NA</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA		
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Parameter discussed in the PDD?	NA													
Inclusion / exclusion justified?	NA													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													
- Parameter to be monitored: T_{flare} Temperature in the exhaust gas of the en-		<table><tr><th>Boundary checklist</th><th>Yes / No</th></tr></table>	Boundary checklist	Yes / No										
Boundary checklist	Yes / No													

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- closed flare Unit: °C Type: required		<table><tr><td>Parameter discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>NA</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>	Parameter discussed in the PDD?	NA	Inclusion / exclusion justified?	NA	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA				
Parameter discussed in the PDD?	NA													
Inclusion / exclusion justified?	NA													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													
- Parameter to be monitored: - Any other parameters required to monitor proper operation of the flare according to the manufacturer's specification (only in the case of use of a default value for the flare efficiency) Unit: - Type: required		<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Parameter discussed in the PDD?</td><td>NA</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Na</td></tr><tr><td>Explanation / Justification sufficient?</td><td>NA</td></tr><tr><td>Consistency with monitoring plan?</td><td>NA</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	NA	Inclusion / exclusion justified?	Na	Explanation / Justification sufficient?	NA	Consistency with monitoring plan?	NA		
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Parameter discussed in the PDD?	NA													
Inclusion / exclusion justified?	Na													
Explanation / Justification sufficient?	NA													
Consistency with monitoring plan?	NA													
- Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?														
F.3.Description of how the baseline methodology procedure is identified and description of the identified baseline procedure														
- Are the project emissions from flaring of the residual gas stream calculated based on the flare efficiency and the mass flow rate of methane?		NA												
- Does the determination of flare efficiency take into account the actual efficiency of combustion in the flare and the time that the flare is operating?		NA												
- Does the calculation of combustion efficiency take into account the methane content in the exhaust gas of the flare, the air used in the combustion process, and the methane con-		NA												

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tent in the residual gas?				
- Is the stated type of flare (open, enclosed) traceable due to the definitions mentioned in the tool?				
- In case of open flare: Is there a device foreseen to demonstrate the flare is operational and are the default values (50% , 0%) in the calculation adapted?		Yes, the 50% default was used.	☒	☒
- Have applicable regulatory or legal requirements been identified?		There is no regulation on methane destruction.		

Table 1b Tool to calculate baseline, project and/or leakage emissions from electricity consumption

The ACM0001 methodology requires the use of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption". This tool provides procedures to estimate the baseline, project and/or leakage emissions associated with the consumption of electricity.

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
G. Emissions reductions					
Integrate questions concerning methodological choices and selection of options, if necessary					
<i>Explanation of methodological choices</i>					
G.1.1.1.	Is it explained how the procedures provided in the tool are applied by the proposed project activity?		Yes, the tool is used to determine electricity consumption emissions.	☒	☒
G.1.1.2.	Is every selection of options offered by		Yes. To determine emission factor for electricity generation, Sce-	☒	☒

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
the tool correctly justified and is this justification in line with the situation verified on-site?		nario A, electricity consumption from the grid, Option A2.																				
G.1.1.3. Are the formulae required for the determination of project or leakage emissions by electricity consumption correctly presented, enabling a complete identification of parameter to be used and / or monitored?		Yes, the formulae are complete.	☑	☑																		
Data and parameters that are available at validation																						
G.1.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied tool?		The parameters are complete.	☑	☑																		
G.1.2.2. Parameter Title: PP _i Rated capacity of power plant i		<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	☑	☑
Data Checklist	Yes / No																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	NA																					
Source clearly referenced?	NA																					
Correct value provided?	NA																					
Has this value been verified?	NA																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
Ex-ante calculation of emission by electricity consumption																						
G.1.3.1. Is the projection based on the same pro-		No, the baseline project emissions are based on calculations	☑	☑																		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																				
cedures as used for future monitoring?		meanwhile the future monitoring will be by measurements.																						
G.1.3.2. Are the GHG calculations documented in a complete and transparent manner?	16	Yes, calculations are in the PDD.	☒	☒																				
G.1.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	16	Yes, sections in the PDD are consistent.	☒	☒																				
Summary of the ex-ante estimation of emissions by electricity consumption																								
G.1.4.1. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	16	Yes, sections in the PDD are consistent.	☒	☒																				
G.2. Application of the monitoring methodology and description of the monitoring plan																								
Data and parameters monitored																								
G.2.1.1. Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied tool?	16	No, see comments below.	See CL No. 16	☒																				
G.2.1.2. Parameter Title: EC _{PJ,y} Onsite consumption of electricity provided by the grid and/or captive power plant(s) and attributable to the project activity during the year y		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>Monitoring Frequency compliant?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	NA	Indication of accuracy provided?	NA	Monitoring Frequency compliant?	Yes	QA/QC procedures described?	NA	☒	☒
Monitoring Checklist	Yes / No																							
Title in line with methodology?	Yes																							
Data unit correctly expressed?	Yes																							
Appropriate description of parameter?	Yes																							
Source clearly referenced?	Yes																							
Measurement method correctly described?	Yes																							
Correct reference to standards?	NA																							
Indication of accuracy provided?	NA																							
Monitoring Frequency compliant?	Yes																							
QA/QC procedures described?	NA																							

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Project Title: Clinton Landfill #2 Gas Collection and Combustion Project

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																						
		<table><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		QA/QC procedures appropriate?	NA																						
QA/QC procedures appropriate?	NA																										
G.2.1.3. Parameter Title: EF _{grid,y} Emission factor for the grid in year y		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>Monitoring Frequency compliant?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table> Option A2 of the tool was selected. Scenario A applies only to project and/or leakage electricity consumption sources but not to baseline electricity consumption sources. A value of 1.3 tCO₂/MWh was used. Since the project activity will use the default value provided in the tool, no emission factor will be monitored.		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	Monitoring Frequency compliant?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☒	☒
Monitoring Checklist	Yes / No																										
Title in line with methodology?	NA																										
Data unit correctly expressed?	NA																										
Appropriate description of parameter?	NA																										
Source clearly referenced?	NA																										
Measurement method correctly described?	NA																										
Correct reference to standards?	NA																										
Indication of accuracy provided?	NA																										
Monitoring Frequency compliant?	NA																										
QA/QC procedures described?	NA																										
QA/QC procedures appropriate?	NA																										
G.2.1.4. Parameter Title:	1			CL No.	☒																						

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
TDL _y Average technical transmission and distribution losses		Monitoring Checklist	Yes / No	16	
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	NA		
		Monitoring Frequency compliant?	No		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
		<u>Clarification Request No. 16.</u>			
1. Clearly indicate the source of data in the reference/link provided. 2. Use local grid data when possible. 3. Describe how changes in distribution losses will be monitored.					
G.2.1.5. Parameter Title: FC _{k,i,y} Quantity of fossil fuel type i fired in the captive power plant k in year y		Monitoring Checklist	Yes / No	☑	☑
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		Monitoring Frequency compliant?	NA		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																						
		QA/QC procedures described?	NA																								
		QA/QC procedures appropriate?	NA																								
		No captive plant																									
G.2.1.6. Parameter Title: EG _{k,y} total net amount of electricity produced by captive power plant k		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>Monitoring Frequency compliant?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table> No emission reductions will be claimed for energy displacement.		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	Monitoring Frequency compliant?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☒	☒
Monitoring Checklist	Yes / No																										
Title in line with methodology?	NA																										
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Indication of accuracy provided?	NA																										
Monitoring Frequency compliant?	NA																										
QA/QC procedures described?	NA																										
QA/QC procedures appropriate?	NA																										
G.2.1.7. Parameter Title: HG _{k,y} quantity of heat co-generated in captive power plant k in year y		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Measurement method correctly described?	NA	☒	☒										
Monitoring Checklist	Yes / No																										
Title in line with methodology?	NA																										
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		<table><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>Monitoring Frequency compliant?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Correct reference to standards?	NA	Indication of accuracy provided?	NA	Monitoring Frequency compliant?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA															
Correct reference to standards?	NA																										
Indication of accuracy provided?	NA																										
Monitoring Frequency compliant?	NA																										
QA/QC procedures described?	NA																										
QA/QC procedures appropriate?	NA																										
		No heat generation																									
G.2.1.8. Parameter Title: NCV _i Net calorific value of fuel type i	16	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>Monitoring Frequency compliant?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	Monitoring Frequency compliant?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA		☒	☒
Monitoring Checklist	Yes / No																										
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Indication of accuracy provided?	NA																										
Monitoring Frequency compliant?	NA																										
QA/QC procedures described?	NA																										
QA/QC procedures appropriate?	NA																										
G.2.1.9. Parameter Title: EF _{CO2,i} CO ₂ emission factor of fuel type i		<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA		☒	☒																
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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		Appropriate description of parameter?	NA			
		Source clearly referenced?	NA			
		Measurement method correctly described?	NA			
		Correct reference to standards?	NA			
		Indication of accuracy provided?	NA			
		Monitoring Frequency compliant?	NA			
		QA/QC procedures described?	NA			
		QA/QC procedures appropriate?	NA			
Annex 4: Monitoring information						
If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?		No additional background information in Annex 4.			☑	☑
Is the information provided verifiable? Has sufficient evidence been provided to the validation team?		No additional background information in Annex 4.			☑	☑
Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?		No additional background information in Annex 4.			☑	☑

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Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
<u>Clarification Request No. 1.</u> 1. Provide proof of contracting on October 31, 2008. 2. Explain why crediting period does not coincide with start of project operation. Provide proof of start of commercial operation.	A.1.3	See the accompanying file, "TerraPass First Env 10_31 signed.pdf". The crediting period does not coincide with the start of project operation because the project monitoring was not compliant with VCS requirements during the first year of operation. For proof of start of operation, see the accompanying file, "Commercial operation date".	☒ The proof of signed contract was submitted (IRL 32) during the on-site audit. Also submitted is the proof of acceptance by VCS Association that such contract is compliant with VCS requirements even if the proof of contracting applies to a different entity than the party performing the validation work (IRL 42). The project start date in Section 1.6 is January 24, 2008 and the start of the crediting period is July 1, 2009. The information provided is accepted and issues remain close.
<u>Corrective Action Request No.1.</u> Provide landfill design capacity and include information in the PD.	A.2.1	Section 1.7 of the PD has been updated to indicate a design capacity of 4.7 million cubic yards of waste.	☒ Landfill capacity is confirmed and accepted. See IRL No.

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			33.
<u>Clarification Request No. 2.</u> During on-site visit provide: 1. On guidance by VCS secretariat on project boundary, proof or personal correspondence with acting VCS Program Manager on Feb 5, 2008 as indicated in the PD. 2. Diagram (map) of collection system showing gas extraction devices including proposed site for future collection expansion and locations of any areas excluded from collection. Delineate the added equipment for project activity. 3. Provide feasibility study report for the project activity 4. Submit the project schedule including the tasks already realized	A.2.2	1. See the accompanying file, "Project boundary correspondence.pdf" 2. Supplied during site visit 3. We are unaware of any standalone feasibility report 4. Section 7 has been updated with specific months for the start of VCS-compliant project monitoring and VCS re-validation Further request from DOE: - Reference provided does not contain paragraph on project boundary . - Project start date in Section 7 is not consistent with Section 1.6. Response to further request: - Please see the accompanying file, "Project boundary correspondence 2.pdf", question 1. - Project start date in Section 7 has been corrected.	☒ Evidence of project start date or plant achieving commercial operation was provided (IRL No. 34) Information provided is complete and accepted.
<u>Corrective Action Request No.2.</u> The PD is not clear on the total amount of waste in place prior to project start. Please provide information.	A.2.6	Section 1.6 has been updated to indicate approximately 4 million metric tons of waste in place prior to project start. Further request from DOE: Indicate source of information Response to further request:	☒ The information is considered complete.

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		Section 1.6 has been updated with a footnote. Total waste in place figures have been calculated from IEPA documents available here: http://www.epa.state.il.us/land/landfill-capacity/ See, for example, the accompanying document "region-4.pdf", page R4.7, which indicates the waste deposited for Clinton Landfill in 2005, 2006, and 2007. See also the accompanying file "Waste disposal totals.xls", which collates the data from all the deposit reports, and fills in missing years with averages. The result of this calculation is 4.0 million metric tons of waste deposited by the end of 2006.	
Clarification Request No. 3. 1. Submit documentation where the entities involved confirm their participation in the project (i.e., between Dewitt Energy and Terra-Pass). 2. Clarify difference between project owner and proponent. Who is the landfill operator.	A.3.2	Clarification request addressed during site visit.	☒ Information is complete and accepted.
Clarification Request No. 4. Label project site clearly on the map provided. GPS coordinates do not match with the CAAP report. Identify at which part of the project site coordinates were taken. clarify:	A.4.1.1	1. The caption has been updated to indicate that the red area is the county in which the project is located. 2. The project site has been labelled "Project site" 3. Section 1.5 has been updated with a description of the project site relative to the landfill site. 4. The GPS coordinates, to the best of our knowledge, correspond to the center of the gas collection system.	☒ Information provided is accepted.

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<u>Corrective Action Request No.3.</u> PD is not clear on the ownership/operation of the Clinton Landfill # 2 and the interfacing between the landfill owner and project proponent (i.e., Dewitt Energy) during implementation of project activity.	A.4.1.2	The relationship between the landfill and the Project proponent has been further described in section 1.15. Further request from DOE: Clinton Landfill, Inc. is not a participant but listed as separate entity under Section 1.15. Clarify interfacing between the landfill owner and project proponent regarding technical interfacing (e.g, gas delivery obligations, gas venting/flaring, environmental compliance and other related interface that could affect GHG emission reductions) should be provided. Response to further request: PD has been updated accordingly.	☒ Clinton Landfill, Inc. is a private landfill operator that owns and operates the well field and gas collection system at the Clinton Landfill. They sell the collected gas along with environmental attributes to DeWitt Energy, and have no direct involvement in the operation or ownership of the project activity other than to deliver gas. A landfill gas purchase contract between DeWitt Energy Associates, LLC and Royal Energy Resources, Inc was provided (IRL No. 12) The issue has been clarified and remains close.
<u>Corrective Action Request No.4.</u> Revise PD according to the latest version of the methodology ACM0001 Version 10.	A.4.2.1	The referenced to the version of ACM0001 has been updated. Version 10 of the protocol contains no changes relevant to the present project. All changes to the protocol relate to thermal energy generation projects (see accompanying file, "eb45_repan09.pdf").	☒ PD has been updated accordingly.
<u>Clarification Request No. 5.</u> 1. Provide during on-site visit: training, operation, maintenance and quality control procedures and monitoring program/plan	A.4.3.8, A.4.3.9	Provided during site visit. Description of training and monitoring procedures has been included in section 3.4 of the PD	☒ The information provided is considered complete.

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2. Describe capacity building conducted to realize project activity GHG monitoring, maintenance and reporting requirements.			
<u>Clarification Request No. 6.</u> Provide source of emission reduction calculation in Section 1.3 of PD	A.4.4.1	See the accompanying file, "Clinton methane calculations v1.1"	☒
<u>Corrective Action Request No.5.</u> Justify the choice of the methodology and its applicability based on applicability criteria stipulated in ACM001 and tools mentioned in Section 2.1.	B.2.2	Section 2.2 has been updated with an explanation of the methodology choice.	☒ The PD has been updated and issue remains close.
<u>Clarification Request No. 7.</u> Describe how small the project emissions from electricity consumption are relative to the emissions from methane destruction (see Section 4.4, page 49).	B.3.5	PD has been updated to include an estimate of 21 metric tons per year from grid electricity use.	☒ Grid electricity consumption by project activity shall be accounted for during the crediting period. The issue remains close.
<u>Corrective Action Request No.6.</u> According to the methodology, quantity of methane flared with project activity should be measured and included in project emissions. Clarify why methane emissions with project activity is equal to zero. Also include	B.3.6	$LFG_{flare,y}$ was added to the set of monitored parameters. The PD was also updated to indicate that the flare is never used while at least one engine is running, so for ex ante estimation of emissions reductions, the quantity flared is assumed to be zero. Because the flare is not physically connected to the gas collection system at this time, the Project operator does not plan to monitor this	☒

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LFG _{flare,y} in data to be monitored.		value or seek value for any gas destroyed with the flare. If the flare is enabled at a future time, it will be monitored in accordance with VCS requirements.	
<u>Clarification Request No. 8.</u> 1. Identify in the PD which scenario satisfies the requirement to include LFG1 and LFG2. 2. Submit source of information on "the system was put in place in 1998 to comply with federal and state requirements."	B.4.2	Section 2.4 has been updated. For source of information on start of gas collection system, see accompanying document, "0398080007_Clinton Landfill 2-391.pdf", page 8.	☒ Section 2.4 describes scenarios relevant for estimating baseline methane emissions. Clinton Landfill, Inc. began operating the landfill gas collection system in June 1998 (IRL No. 36) The information is complete and issue remains close.
<u>Clarification Request No. 9.</u> 1. Clearly indicate that the performance and monitoring criteria are met by Clinton Landfill # 2 to control NMOCs and surface and subsurface methane (from 2006 to 2008 or most recent available). a. Provide annual reports submitted to Illinois EPA substantiating the claim on compliance to the regulatory requirements (2006 to 2008). Include solid waste landfill groundwater, leachate, facility and gas reporting form filed for the Clinton Landfill on April 25, 2008.		1. a. See accompanying files: 0398080007_Clinton Landfill 2-393.pdf, p. 9 - 14 0398080007_Clinton Landfill 2-394.pdf, p. 9 - 14 0398080007_Clinton Landfill 2-395.pdf, p. 10 - 14 These annual reports are submitted by the landfill to the IEPA. Documents were submitted in 2006, 2007, and 2008, respectively. b. Please see accompanying documents:	☒ An environmental permit has been issued by Illinois Environmental Protection Agency (IEPA) approving development and operation of Clinton Landfill No.2 with expiration date of Aug 1, 2012 AAM did not indicate concentrations > 50% of the LEL for methane in air and no malodors were reported outside the waste boundary in 2005 and 2006 (IRL No.19).

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b. Provide most recent version of all permits issued by IEPA to Clinton Landfill # 2 and DeWitt Energy (related to project activity). c. If not documented in (a) above, provide values of the following monitored parameters as mentioned in page 19: pressure, methane, oxygen, nitrogen and carbon dioxide. Limit to annual average and range (max and min) d. Provide copy of approval of landfill gas collection system issued by IEPA to Clinton Landfill mentioned in page 19 of PD. Also, provide information on the submitted gas collection and control specification including maximum expected gas flow, flare specification. 2. Indicate clearly on the report how compliance to regulations will be maintained during maintenance or emergency shutdown/failure of the engine-generator sets.		Construction Permit IEPA.pdf Filed Form 556.pdf building permit.pdf Landfill 2002 Title V permit.pdf 0398080007_Clinton Landfill 2-193.pdf The first three permits are for the gas-to-energy project. The last two are for the landfill itself. c. Provided in the documents described in part (a). d. See accompanying files 0398080007_Clinton Landfill 2-106.pdf Flare Station Model and SN.pdf 2. A paragraph describing regulatory compliance procedures has been added to scenario 2.	Supporting documents showing annual reports from 2003, 2004, 2005, 2006 and 2007 to 2007 (IRL Nos. 36, 20 37, 38 and 39); permits for the project activity (IRL Nos.21,40,25); Clinton landfill permits (IRL Nos. 24 and 41); Flare specification (IRL No.16) The information provided confirms that Clinton Landfill, Inc. and the project activity comply with the regulations.
<u>Corrective Action Request No.7.</u> The title of the methodology/tool used is not correct. Describe the scenario used and how it is applied to the project activity.	B.6.2.2	Parameter name is updated and use of the scenario is described.	☒ The PD has been updated.
	B.6.2.4, B.6.2.5	Sources have been identified	☒ The sources are verified and

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<u>Clarification Request No. 10.</u> Clearly identify reference sources of: <u>1.</u> regulations applicable to both Clinton Landfill No. 2 and De-Witt renewable energy facility <u>2.</u> ϕ Model correction factor In the applicable Table in Section 3.3 and Annex, i.e., which table/section			issue remains close.
<u>Corrective Action Request No.8.</u> 1. Describe type of material used to cover waste in the applicable Table in Section 3.3. 2. Clearly reference source(s) i.e., which table/section. 3. OX does not should reflect the type of material used and considered in the calculations.	B.6.2.6	Value for OX has been updated, and all methane collection values have been recalculated accordingly. Reference to source now includes document name, version, and page number.	☒ Material used is verified as 60-mil high density polyethylene liner. OX is zero (0) . The issue remains close.
<u>Clarification Request No. 11.</u> Clearly reference source in Section 3.3 of the following parameters: <u>1.</u> Methane conversion factor, MCF <u>2.</u> Decay rate of the waste type j, K_j, <u>3.</u> Fraction of methane in the SWDS gas, F <u>4.</u> GWP, global warming potential	B.6.2.7, B.6.2.8, B.6.2.9, B.6.2.10	PD has been updated with reference to specific table	☒ Information included in PD and issues remain close.

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<u>Clarification Request No. 12.</u> 1. Data unit used for D_{CH_4}, methane density is not consistent in the PD. 2. Clearly reference source 3. Methane density is not available in reference provided	B.6.2.11	Reference has been updated to more precisely indicate source of figures. Density figure is calculated, not taken directly from reference. Density figures have been updated throughout to use same units, metric tons per cubic foot. Further request from DOE: Value and unit of volume of one lb mole of ideal gas Section 4.2, page 49. Response to further request: Section 4.2 updated	☒ Values and units were verified and issues remain close
<u>Clarification Request No. 13.</u> ISO 14064-2 section number indicated in the PD is not correct.		PD has been updated.	☒ Correct information has been provided. This issue remains close.
<u>Corrective Action Request No.9.</u> Regarding monitoring parameters; a. Include the missing parameters in section B.7.1. b. Include more details on the technology to be employed for measurements (e.g., kind of equipment, manufacturer, accuracy, calibration plan, etc. as necessary. c. Include monitoring and recording frequency as nec-	B.7.1.1	Missing parameters have been added. Exact equipment specification is not known at this time, as project owner is deferring purchase until after validation. Equipment type, location, monitoring frequency, and QA/QC plans are described in section 3 of the PD. Section 3.4 has been updated to indicate that specific of plan will be in keeping with manufacturer guidelines and national/international standards. Further request from DOE: Methodology requires monitoring of $LFG_{flare,y}$. Please	☒ Information has been provided in the monitoring plan.

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essary. d. Include QA/QC procedures as necessary		clarify. Also see reponse to CAR 6. Response to further request: Update (10/9/09): LFG_{flare,y} has been added.	
<u>Corrective Action Request No.10.</u> Include total amount of landfill gas captured (LFG_{total,y}) and total amount of landfill gas flared (LFG_{flared,y}) in the monitoring plan.	B.7.1.2, B.7.1.3	Total landfill gas captured has been added to section 3.4 Further request from DOE: See forward action request (FAR 1) below.	☒ LFG_{total,y} and LFG_{flare,y} are included in the Project document (IRL 31)
<u>Corrective Action Request No.11.</u> Correct value and indicate value applied for historical emissions and for ex-ante estimates.	B.7.1.8	Values for historical emissions and ex ante estimates included. Further request from DOE: 1. Provide spreadsheet showing calculations for base-line and emission reduction. 2. Clarify the increase in destruction efficiency for project activity in 2009 to 2013. 3. Proforma efficiency in year 1 according to PD is 50% (page 53). Explain why 61% was used in Ex ante project emissions reductions (see Table in page 54) Response to further request: 1. The spreadsheet showing baseline emissions is "Clinton methane calculations v1.1.xls." Cell D4 on	☒ Spreadsheets and calculations have been verified. PP adjusted all emissions table in PD to start at 2007. Methane generation (BE_{CH₄,SWDS,y}) is consistent in the spreadsheet and the PDD. All issues remain close.

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		the "Inputs" sheet shows the methane generated in 2006, the year prior to project start. This figure was calculated via a first-order decay model. The spreadsheet showing the baseline gas destroyed is "Clinton Flare Data 2006.xls." On the "Collated, normalized data" sheet, Cell P56 shows the amount of landfill gas captured, based on historical flow data and methane concentration data. Cell Q56 shows the amount of methane captured. This data is described fully in Annex 5. The spreadsheet "Baseline calculation.xls" shows the calculation of the adjustment factor AF using the figures and equations in the PD 2. Section 4.4 has been updated with an explanation of the destruction efficiency factors: "The growing destruction efficiency reflects the greater capture efficiency in future years as more of the landfill is brought under final cover, additional wells are installed, and final pipes are constructed. The numbers used in the ex ante calculations reflect the pro forma assumptions of the project developer. Note that these ex ante estimates won't affect the actual number of VERs generated by the project, which will be based on the measured rate of methane destruction." 3. Year 1 of the project was 2007. The first year of the table is 2009. The higher destruction efficiency reflects the construction of additional collection wells and the greater degree of final cover in the active landfill cell.	
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		Further request from DOE: 1. All emission tables in PD should start at project start date – 2007 2. In “Clinton methane calculations v1.1”, methane generation for 2006 is not consistent with CEL D4, “Inputs” and Cell R3, “Calculations”. 3. In the Table page 55 of PDD (pdf version), $BE_{CH_4,SWDS,y}$ is not consistent with Clinton Methane Calculations V1.1	
<u>Corrective Action Request No.12.</u> Include temperature and pressure of landfill gas in Section 3.3, Monitored parameters	B.7.1.9, B.7.1.10	Temperature and pressure added to section 3.3	☒
<u>Corrective Action Request No.13.</u> 1. Identify who has the overall responsibility of data management in the PD, 2. Describe how data will be collected, recorded and stored PD. 3. Add accuracy of each equipment in the table in the PD. 4. Provide information on operation, maintenance and calibration of flow meters, temperature and pressure gauges, portable analyzers and other instruments used for project activity monitoring. The information will be requested as needed during on-site visit	B.7.2.1	PD has been updated with a “Responsibilities and Processes” section in Chapter 3. We can’t yet provide the accuracy of individual pieces of equipment, because equipment won’t be purchased until validation is complete. Further request from DOE: Clarify if landfill operations personnel are from Clinton Landfill, Inc. Show how data will be transmitted to TerraPass, Inc. Response to further request: PD updated to clarify that landfill personnel are employed by Clinton Landfill Inc.	☒

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		Section 3, Responsibilities and processes section updated to indicate manner of data transmission.	
<u>Corrective Action Request No.14.</u> Include in the PD the date of baseline determination and the responsible person/party	B.8.1.1	This information has been added to section 4.1 of the PD.	☒
<u>Clarification Request No. 14.</u> 1. Indicate the operational life-time of the project activity 2. Clarify when crediting period and monitoring periods will start.	C.1.	Section 1.6 has been updated with the operational life of the project. Requested crediting period start date is now July 1, because monitoring won't begin until after validation is complete. Further request from DOE: Commercial operation in Section 1.6 started January 2007 while project start date in Section in Section 7 is Feb 2007. Clarify difference or make project start date consistent in the PD. Response to further request: Date in Section 7 has been corrected	☒
<u>Clarification Request No. 15.</u> 1. Clarify how the project participant ensured the effective delivery of the invitation of the stakeholder consultation. 2. Provide minutes of meetings, presentation materials, list of attendees or evidences of stakeholder consultations. 3. Describe outcome of stakeholder	E.1.4	A paragraph has been added indicating the lack of formal records from stakeholder consultations. The clarification requests go significantly beyond the VCS requirements, and unfortunately no such supporting documentation exists.	☒

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consultations and mechanisms for on-going communication included in the document 4. List of stakeholder's comments and how they were taken into account			
<u>Clarification Request No. 16.</u> 1. Clearly indicate the source of data in the reference/link provided. 2. Use more local grid data when possible. 3. Describe how changes in distribution losses will be monitored.	I.2.1.4	A link to the report and page number citation has been included, and the monitoring section has been updated with a note about future monitoring. We know of no source of data for regional transmission losses, so we will continue to use the national figure.	☒
<u>Forward Action Request No. 1.</u> In case that the flare is re-incorporated to the system, the adequate installation and integration shall be verified prior to the subsequent verification period.	B.7.1.2, B.7.1.3, CAR No. 10	If and when the flare is reincorporated into the system, its proper installation and integration into the system shall be verified prior to the subsequent verification period.	☒

Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A. General description of project activity				
A.1. Demonstration to confirm that the project was not implemented to create GHG emission reductions primarily for the purpose of its subsequent removal or destruction.				
- Is it confirmed in the document that the project was not implemented to create GHG emission reductions primarily for the purpose of its subsequent removal or destruction?	1, 14	Yes, in Section 1.12 there is a confirmation that the project does not create GHG emission primarily for further reduction.	☒	☒
A.2. Demonstration that the projects has not created another form of environmental credit (for example renewable energy certificates)				
- If the project has created another form of environmental credit: Is a letter provided from the program operator that the credit has not been used and has been cancelled from the relevant program?	1, 15, 44, 45	At the project facility, renewable energy generation produces renewable energy certificates (RECs). The RECs are purchased by Ameren, the retail energy supplier that also purchases the generated electricity. The project boundary has been drawn to exclude the exported electricity. The PD indicates that guidance from VCS secretariat makes it clear that project boundary can be drawn such that the methane destruction credits are separated from the indirect reductions from grid power sales. <u>Clarification Request No. 1.</u> Provide copy of correspondence of the project proponent to VCS on Feb 5, 2008.	CL 1	☒
A.3. Projects rejected under other GHG programs (if applicable)				
- Projects rejected by other GHG programs can be considered. If this is the case it shall be:	1, 13,	The project has not been rejected under other GHG program. The	☒	☒

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a) clearly stated in the VCS PD: all GHG programs for which the project has applied for credits and why the project was rejected (no commercially sensitive information, see A.17). b) provision of the VCS verifier and registry with the actual rejection document(s) including explanation. c) If the project was validated against VCS program requirements.	32	The TerraPass, Inc (project proponent) and DeWitt Energy (project owner) Verified Emission reductions consignment agreement became effective 2 October 2008 (IRL13). The project was first contracted for verification under VCS program in 31 October 2008 (IRL 32). The timeline indicates that there is not enough time to apply to other GHG programs. In addition, the project activity does not meet the CCX eligibility criteria on membership status and ownership status without the consignment agreement (http://www.chicagoclimatex.com/docs/offsets/CCX_Landfill_Methane_Collection_and_Combustion_Final.pdf). TerraPass, Inc is listed as CCX member while DeWitt Energy Associates, LLC is not (http://www.chicagoclimatex.com/content.jsf?id=64). <u>Forward Action Request 1.</u> Double counting with other in future evolving emissions trading schemes shall be re-assessed at each verification.		
B. Application of a baseline and monitoring procedure				
B.1. Title and reference of the approved baseline and monitoring procedure				
Are reference number, version number, and title of the tool clearly indicated?	1	Yes, the tool is indicated in the PD as Tool for the demonstration and assessment of additionality (version 5.2) (EB39, annex 10)	☒	☒

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- Is the applied version the most recent one and / or is this version still applicable?	1, 6	Yes, version 5.2 is the most recent one and still applicable.	☒	☒
B.2. Justification of the choice of the tool and why it is applicable to the project activity				
- Is the applied tool considered the most appropriate one?	1, 6	Yes, the tool is the most appropriate.	☒	☒
B.3. Description of the parameters included in the tool				
B.4. Description of how the baseline methodology procedure is identified and description of the identified baseline procedure				
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):				
- Is the realisation of the project activity based on an approved, a proposed new methodology or especially on ACM0001?	1, 5	No. The project was based on Version 9.1 of the approved methodology on Consolidated baseline and monitoring methodology for landfill gas project activities." See CAR No. 7 of Validation Protocol ACM0001 Clinton Landfill2Project. Revise PD according to the latest version of the methodology ACM0001 Version 10.	See CAR No. 7	☒
- In case the project activity started before the validation activity, how is demonstrated that the CDM was seriously taken into account for the decision to start the project?	12	Clarification Request No. 2. Submit documents evidences that the carbon credits were taken into account for the decision to start the project, e.g., FS, financial evaluation	CL No. 2	☒
Step 1 – Identification of alternatives to the project activity				
- Are alternative scenarios defined that provide	1	Yes, the two alternative scenarios will continue to provide landfill	☒	☒

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
outputs or services comparable with the proposed CDM project activity?		operation services of the same capacity as the CDM project activity.		
Can be the list of alternatives considered to be complete, why? Is the scenario project activity without being registered as CDM project included?	1	There are two alternatives presented. i.e., to continue with pre-project activity and execution of project without registration under VCS. Use of gas for thermal energy was mentioned but was not included as alternative because the project was in the beginning considered as not financially attractive. <u>Clarification Request No. 3.</u> Clarify why only two alternatives are considered. According to PP only two alternatives are possible given that other alternatives are clearly less financially attractive than the project activity.	CL No. 3	☒
In case several different facilities, technologies, outputs or services are present in the project, are separately alternative scenarios for each of them included? Have realistic combinations been considered as project scenario?	1	Combinations of facilities/technologies/outputs/services were not considered in this project activity.	☒	☒
Describe why the alternative scenarios are credible and realistic (technology, practices, services, status of implementation)?	1	Yes, both alternatives listed are credible and realistic scenarios. Option 1 similar to LFG2, operation of the existing landfill gas collection system and flare, has been selected like baseline, to main-	☒	☒

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		tain compliance with regulations and keep explosive gas within the limit an avoid odor issues. Option 2, execution of project without registration under a voluntary carbon standard such as VCS 2007, the investment analysis demonstrates that the project activity is only possible with carbon revenues. Both scenarios provide services (landfill operation of the same waste design capacity) comparable with the proposed CDM project activity.		
- Do the alternative scenarios comply with mandatory laws and regulations?	1, 18, 19, 20, 21, 22, 23, 24	Yes, alternative scenarios comply with mandatory laws and regulations.	☒	☒
- If a scenario does not comply with the mandatory laws and regulations, it is clearly demonstrate that the law and/or regulation is systematically not enforced in the country?		NA	☒	☒
Step 2 – Investment analysis (could be optional if step 3 is used)				
- Is the analysis method identified appropriately?	1	Yes, investment analysis is more appropriate than barrier analysis in the context of the project activity.	☒	☒

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- In case of Option I (<u>simple cost analysis</u>): Is it demonstrated that the activity and the alternatives identified in step 1 produce no economic benefits other than CDM income? Is the project activity more costly than at least one alternative?		Not applicable	☒	☒
- In case of Option II (<u>investment comparison analysis</u>): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost) and reflects this indicator no economical and financial attractiveness or feasibility at all?		Not Applicable	☒	☒
- In case of use of IRR, it is clearly demonstrated why is equity of project IRR used?		Not. Applicable	☒	☒
- In case of Option III (<u>benchmark analysis</u>): Is the most suitable financial/economic indicator clearly identified (project or equity IRR)?	1, 4, 15, 43	Yes, the benchmark analysis is appropriate as the baseline does not require investment (i.e., the developer has the choice to invest or not to invest. Benchmark indicator of 15% was used, based on expected returns for projects of similar types of projects. The PD indicated that the benchmark used (15%) is within the range of most types of landfill gas to energy project published by USEPA (12% to 18%). <u>Corrective Action Request No.1.</u> - Describe clearly how 15 percent was selected. - The 15% provided in the PD is based on methane recovery projects at farms. Provide benchmark rate for similar types of projects.	CAR No. 1	☒

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		3. Consider market rates on values of RECs used. Justify why 0.5 cent per kWh was used. Provide source.		
- How is it demonstrated that the financial/economic analysis (benchmark) represents standard returns in the market, considers the specific risk of the project type, but is not linked to the subjective profitability expectation or risk profile of a particular project developer (Option II and Option III)?	1, 4, 13, 15	<u>Clarification Request No. 4.</u> Submit the following: 1. Financial additionality spreadsheets. 2. Submit copies of sources/pro forma on values used for value of REC and electricity 3. Source of carbon revenue of \$5 per metric ton. Specify if this is per metric ton of C or CO2 (PD, page 24). 4. Contract between DeWitt Energy Associates and TerraPass. 5. Provide financial feasibility assessment provided to the local bank.	CL No. 4	☒
- In case of company internal benchmark, is it clearly demonstrate that there is only one potential project developer and that the benchmark has been consistently used in the past (Option II and Option III)?		See CAR No. 1	See CAR No. 1	☒
- In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives (Option II) and the project activity (Option)?	1, 4, 42, 48	<u>Clarification Request No. 5.</u> 1. It is not clear when carbon offset revenue was considered in the cash flow. PD indicates that crediting period will start May 2009. Show how this decision was considered by the company's Board. 2. Clarify how the period of assessment (10 years) was selected. The calculations shall as a preference reflect the technical lifetime or if shorter should include the fair value of the project activity assets at the end of the as-	CL No. 5	☒

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		essment period. Also see CAR No. 1 and CL No. 4.		
- In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1, 4	To be verified during on-site visit. See CAR No. 1, CL No. 4 and 5.	See CAR No. 1, CL No. 4 and CL No. 5	☒
- Are all assumptions and input data clearly presented, documented, evidenced and consistent with the rest of the PDD?	1, 4	To be verified during on-site visit. See CAR No. 1 and CL No. 4 and 5.	See CAR No. 1, CL No. 4 and CL No. 5	☒
- Does the <u>sensitivity analysis</u> shows that the conclusion of financial/economical attractiveness is robust to reasonable variations in the critical assumptions?	1, 4	Sensitivity analysis is based on REC sales, increasing investment time horizon, and inclusion of carbon revenue. <u>Clarification Request No. 6.</u> Demonstrate that variables constituting more than 20 per-cent of either total project costs or total project revenues are subjected to reasonable variation. If costs/revenues are fixed provide appropriate documentation (e.g., actual purchase agreement between the project developers and the landfill operators) See CAR No. 1 and CL No. 4	CL No. 6	☒
- How is demonstrate that this variations have		See CL No. 6	See CL	☒

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been adequately taken (range is adequate)?			No. 6	
Step 3 – Barriers analysis (is mandatory if step 2 is not used or does not shows additionality)				
- Is a complete list of barriers developed that prevent the implementation of the proposed project and the different alternatives to occur?		Not Applicable	☒	☒
- Is transparent and documented evidence provided on the existence and significance of these barriers?		Not Applicable	☒	☒
- Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?		Not applicable	☒	☒
- How is confirmed that the CDM does alleviate the barriers presented?		Not applicable	☒	☒
Step 4 – Common practice analysis (is to complement based on the information given in step1 and reinforce step2 / step3)				
- Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD?	1	See VCS requirements below	☒	☒
- If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component?	1	See VCS requirements below	☒	☒
- VCS Requirements: In addition to using a VCS Program approved methodology; the project proponent shall demonstrate that the project is additional using one of the	1,14	The project proponent chose the project test consisting of: Step 1 – regulatory surplus; Step 2 – Implementation barriers; Step 3 – Common Practice	CAR No. 2	☒

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1 following tests: Is demonstrated that the project activity is additional based on one of the tests: a) the project test, b) the performance test c) technology test		Step 1: The PD claims that the credits sought are surplus to greenhouse gas destructions mandated by federal, state or local regulations. Also, see CAR No. 10 of Validation Protocol ACM0001 Clinton Landfill 2 Project. Step 2: Project faces investment barriers in form of an inadequate financial return compared to other alternatives and requires carbon revenues to overcome them. See CL No. 4 to 6. Step 3. There are similar activities in the Region and 35 landfill gas to energy projects were reported to be operational <u>Corrective Action Request No.2.</u> 1. Present clearly the profile of the 35 landfills with LFGE systems (including waste in place, LFGE type and MW capacity). 2. Indicate which other smaller landfills have a landfill gas-to-energy system. 3. Demonstrate why the existence of these landfills with similar activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. .		
C. Ownership				
C.1 Proof of land title				

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Is the proof of title been provided by one of the following: a) a legislative right b) a right under local common law c) ownership of plant, equipment and/or process generating the reductions/removals d) a contractual arrangement with the owner of the plant, equipment or process that grants all reductions/removals to be proponent	1,12, 13	No. There is no proof of land title provided in the PD. Clinton Landfill, Inc. is the landfill and gas rights owner and not a project participant. In February 2004, DeWitt Energy Associates, LLC signed a contract with Clinton Landfill, Inc. for rights to develop an energy project using the landfill gas. DeWitt Energy, Inc Associates, LLC is the owner of the project. The plant is located within the property owned by Clinton Landfill, Inc. TerraPass, Inc. is the project proponent, developer of the PD, and purchaser of the credits. <u>Corrective Action Request No.3.</u> Describe in the PD the agreement/contract on project site lease and gas rights. Also provide contract between DeWitt Energy and Clinton Landfill, Inc.	CAR No. 3	☒
C.2. Projects that reduce GHG emissions from activities that participate in an emission trading program (if applicable)				
Is, if applicable, a list included to the document that shows all project proponents of projects that reduce GHG emissions from activities that: a) are included in an emission trading program, or b) take place in a jurisdiction or sector in which		NA	☒	☒

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
binding limits are established on GHG emissions.				
- Is, if applicable, evidence that reductions or removals generated by the project have or will not be used in the program or jurisdiction for the purpose of demonstrating compliance included?		NA	☒	☒
- If yes, does evidence include: a) a letter from the program operator or designated national authority that emissions allowances (or other GHG credits used in the program) equivalent to the reductions/removals generated by the project have been cancelled from the program, or national cap as applicable or; b) purchase and cancellation of the GHG allowances equivalent to the reductions/removals generated by the project related to the program or national cap.		NA	☒	☒

Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
<u>Clarification Request No. 1.</u> Provide copy of correspondence of the project proponent to VCS on Feb 5, 2008. Document provided does not	A.2	The wrong document was included earlier. See accompanying file "Project boundary correspondence 2.pdf", question 1.	☒ The requested information was verified (IRL No. 45) and issue remains close.

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contain the requested information			
<u>Clarification Request No. 2.</u> Submit documents evidences that the carbon credits were taken into account for the decision to start the project.	B.5	See accompanying document, "dewitt pro forma.pdf." Note that DeWitt Energy's financial planning system is a configurable tool that allows the company principals to alter planning assumptions, test various scenarios, and create custom views of the project for different audiences. The sample view provided in the document doesn't represent a single master view of the project, but rather shows the different parameters and planning assumptions, including consideration of carbon revenue. Further request from DOE: Provide a dated copy of "dewitt pro forma – highlighted.pdf". Response to further request: A gas purchase agreement between DeWitt Energy Associates, LLC and Royal Energy Resources, Inc. signed in 2004 that explicitly mentions revenue from "Greenhouse Gas credits" was submitted.	☑ Document is accepted (IRL No. 12, Section 9.6) and issue remains close.
<u>Clarification Request No. 3.</u> Clarify why only two alternatives are considered.	B.5	Section 2.1 has been expanded with a discussion of alternatives. The CDM additionality guidelines instruct project proponents to consider three different alternatives: 1. project activity undertaken without carbon revenue 2. continuation of pre-project situation	☑

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		3. other credible scenarios that deliver services comparable to the project activity As discussed in the expanded section 2.1, we analyze scenarios 1 and 2. For scenario 3, we were unable to identify credible alternative scenarios. Possible scenarios include pipeline injection of landfill gas and direct use for thermal energy. But the relative remoteness of the site and lack of proximity to either suitable end users or a pipeline rendered these alternatives inapplicable.	
<u>Corrective Action Request No.1.</u> 1. Describe clearly how 15 percent was selected. 2. The 15% provided in the PD is based on methane recovery projects at farms. Provide benchmark rate for similar types of projects. 3. Consider market rates on values of RECs used. Justify why 0.5 cent per kWh was used. Provide source.	B.5	1. We cite two different sources for the 15% figure: the AgStar Handbook and the Landfill Gas-to-Energy Project Development Handbook, both compiled by the U.S. federal government. According to the CDM "Tool for the demonstration and assessment of additionality," such figures from national authorities are considered appropriate benchmarks: "Benchmarks supplied by relevant national authorities are also appropriate if the DOE can validate that they are applicable to the project activity and the type of IRR calculation presented." Further, the CDM tool states that national figures should be preferred to internal benchmarks used by individual project developers:	☒ USEPA cite rate of return on equity from 12% to 18% for most types of landfill gas to energy projects. (IRL 43). REC prices are given in (IRL 15). The information is verified and issues remain close.

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		"Internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC), should only be applied in cases where there is only one possible project developer" It happens in this case that DeWitt Energy does typically seek a hurdle rate of 15%, but we have chosen to cite the national figures in accordance with CDM guidance. 2. The PD uses figures for both methane recovery on farms and methane recovery on landfills. 3. 0.5 cents per kWh was used because this rate was already known at the time of financial closure. The power purchase agreement had been negotiated prior to acceptance of the bank loan.	
<u>Clarification Request No. 4.</u> Submit the following: 1. Financial additionality spreadsheets. 2. Submit copies of sources/pro forma on values used for value of REC and electricity; 3. Source of carbon revenue of \$5 per metric ton. Specify if this is per metric ton of C or CO2 (PD, page 24).	B.5	1. See the accompanying file "clinton.financials.v2.submitted.xls" 2. See accompanying documents "dewitt ppa excerpt redacted.pdf" and "DeWitt PPA Invoice 07-03_R1.pdf" 3. PD has been updated to indicate \$5/ton CO2. The figure is provided by TerraPass, and simply represents a reasonable planning assumption based on historical carbon prices.	☒ The following were provided: The electricity price rate and REC prices (IRL 15) are consistent with those used in the investment analysis (IRL 4). TerraPass-DeWitt Contract (IRL13). The final version of financial

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Date of Completion: 12 November 2009

Project No.: 600500342



4. Contract between DeWitt Energy Associates and TerraPass. 5. Provide financial feasibility assessment provided to the local bank.		4. See accompanying file, "TerraPass - DeWitt contract.pdf" 5. See accompanying file, "dewitt pro forma.pdf" Further response from DOE: Provide source of \$5 per metric ton CO2 Response to further comment: The \$5 per ton is a conservative value based on prevailing carbon prices at the time. Around the time of financial closure, carbon industry members were projecting the price of Certified Emission Reductions (CERs) sold on a forward basis to be in the €7-9 range, or approximately \$9-12. Although no single benchmark for carbon credit prices existed (or yet exists) in the United States, the Chicago Climate Exchange provided a visible price index. In 2006, the year before commercial operation, average daily closing prices for 2006-vintage credits was \$3.56 per ton. Moreover, this price rose fairly steadily throughout the course of the year, with an average closing price of \$4.07 per ton in December. Given the strong global carbon price and the steadily rising U.S. indicators, \$5 constituted a reasonable forward-looking planning assumption.	analysis submitted is clinton.financials.v3.submitted.xls" The information is complete and issues remain close.
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		Data sources: CER prices: http://www.moneycontrol.com/mccode/news/article/new_s_article.php?autono=195106 Currency conversion: http://finance.yahoo.com/echarts?s=EURUSD=X#chart1:symbol=eurusd=x;range=5y CCX prices: http://www.chicagoclimatex.com/data/cfi_closing_prices_historical.xls	
<u>Clarification Request No. 5.</u> 1. It is not clear when carbon offset revenue was considered in the cash flow. PD indicates that crediting period will start May 2009. Show how this decision was considered by the company's Board. 2. Clarify in the PD how the period of assessment (10 years) was selected. The calculations shall as a preference reflect the technical lifetime or if shorter should include the fair value of the project activity assets at the end of the assessment period.	B.5	1. Revenue from the environmental attributes of the project (carbon and RECs) was anticipated from the beginning of project operations. The crediting period has been requested to begin after project start because monitoring procedures were not compliant with VCS. 2. Ten years is the typical period that TerraPass uses to evaluate projects, because it is regarded as the longest reasonable window of time for private investors in a small project to wait for the project to yield a financial return. Revenues after ten years are regarded as uncertain. The financial analysis in the PD has been updated to include equipment resale and clean-up costs. Further request from DOE:	☒

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		1. Clarify whether project IRR or equity IRR was used. 2. Explain O&M and gas license payment at Year 0. 3. Why Year 0 is 2007 (start of commercial operation) 4. Provide proofs/sources of the following: a. O&M b. O&M escalator c. Tax rate d. Gas licence e. Investment tax credit f. Clean up cost Response to further request: 1. We have calculated an equity IRR, not a project IRR, so cost of financing should be included. In keeping with guidance No. 10, our analysis subtracts the loan capital out of the total capital cost, so that only costs financed by equity are considered. 2. We modified the analysis to move capital expenditures into year 0 and the first year of revenue to year 1. 3. Year 0 is now 2006, the first year after financial closure. 4a. Because O&M costs are highly dependent on the equipment used and the configuration at the project site, we used the O&M estimates in the project owner's pro forma planning documents. See document "Clinton	
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		O&M costs.pdf." (Note that the pro forma value is 14.975 cents/kWh, which we have rounded to 15 cents/kWh. The 0.16% difference is not material to the financial additionality calculation.) 4b. For planning purposes, O&M escalation rates are generally in the single digit percentages, although single standard figure exists. According to the Cogeneration & Small Power Production Manual, the inflation rate is a good benchmark. In the ten years prior to financial closure, the inflation rate averaged 2.5% per year, so we have updated the financial additionality analysis to use this figure. Source for O&M escalator: http://books.google.com/books?id=uDNB0-3fe6UC&lpg=PA161&ots=YRqnBYEjXI&dq=o%26m%20escalation&pg=PA161#v=snippet&q=o&m%20escalation&f=false Source for historical inflation rates: http://inflationdata.com/inflation/Inflation_Rate/HistoricalInflation.aspx?dsInflation_currentPage=0 4c. The tax rate doesn't meaningfully affect the financial additionality calculation, because the project doesn't generate any tax burden for the first eight years of operation under any of the scenarios analyzed. Corporate tax rates in the U.S. are graduated based on profit level. Tax rates are available here:	
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		http://en.wikipedia.org/wiki/Corporate_tax_in_the_United_States#Tax_base_and_rates Our figure of 36% represents a blended average rate based on the marginal rate on profits greater than \$75,000, which ranges between 34% and 39%. 4d. The gas license payment was known at the time of financial closure and therefore is taken directly from the developer's agreement with the landfill. See document "Gas license payment - highlighted.pdf," which is an excerpt of the gas license purchase agreement. As indicated in the highlighted sections, the gas license payment in any year is calculated by adding the Tier One Fuel Price (\$6.55/engine operating hour) to the Tier Two Fuel Price (ranging between \$2.50 and \$3.70/engine operating hour). 4e. The investment tax credit was known at the time of financial closure and therefore is taken directly from the developer. See document "dewitt pro forma - highlighted.pdf." The investment tax credit payments are highlighted. Note, though, that the pro forma document has a typo in the identifying labels. The \$7.00/MWh figure applies for the first three years, and the \$5.00/MWh figure applies for the next seven years. 4f. The clean-up cost is an estimate based on a private communication with the project developer. This cost	
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		was included at the request of TUV. A sensitivity analysis has been added to the PDD to demonstrate that this figure is not material to project returns.	
<u>Clarification Request No. 6.</u> Demonstrate that variables constituting more than 20 percent of either total project costs or total project revenues are subjected to reasonable variation. If costs/revenues are fixed provide appropriate documentation (e.g., actual purchase agreement between the project developers and the landfill operators)	B.5	Only two variables constitute more than 20% of costs or revenues. The first is the capital expense for the project itself, of which the biggest single item is the cost of the engines. The market for heavy equipment is not particularly volatile, and the project developer had time to get price quotes in perform detailed costing in advance of the financial closure date. There was no reason prior to financial closure to believe that the project would come in significantly under budget, and indeed capital costs ended up exceeding the pro forma estimates. Nevertheless, we used the pro forma estimates, in keeping with CDM guidance. The second is income from electricity sales. Because the project developer signed a PPA in advance of the financial closure date, the electricity rates were known in advance and so not subjected to sensitivity analysis.	☑
<u>Corrective Action Request No.2.</u> 1. Present clearly the profile of the 35 landfills with LFGE systems (including waste in place, LFGE type and MW capacity). 2. Indicate which other smaller landfills have a landfill gas-to-energy system. 3. Demonstrate why the existence of	B.5	1. The PD has been updated with Annex 6, an analysis of common practice. 2. See Annex 6. 3. See Annex 6. Further request from DOE:	☑ The PD has been updated and links to information of other landfills are accessible and included in Annex 6 of the VCS PD.

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these landfills with similar activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers.		Links provided for Upper Rock Landfill, Lansing Landfill, Streator Landfill, Brickyard are not accessible. Response to further request: Upper Rock link has been updated. Also, an associated report has been included with the CAR response (see document "ERT_USEBC_Upper_Rock_Verification_Statement_Aug 27_2007.pdf"), establishing that the landfill sought carbon credits for its system. The Lansing link has been updated, and the linked document has been provided with the CAR response (see "WMIL-KLC Ex. 3.pdf", page 2). The Streator link has been updated, and the linked document has been provided along with the CAR response (see "ERT_USEBC_Streator_MRV_2007_07.pdf"). The Brickyard link has been updated, and the linked document has been provided along with the CAR response (see document "ERT_USEBC_Brickyard_MRV_2007_07.pdf").	
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<u>Corrective Action Request No.3.</u> Describe in the PD the agreement/contract on project site lease and gas rights. Also provide contract between DeWitt Energy and Clinton Landfill, Inc.	C.1	Provided during site visit	☒ The agreement/contract on project lease (IRL No. 12) and gas right was submitted and this issue remains closed.
<u>Forward Action Request 1.</u> Double counting with other in future evolving emissions trading schemes shall be re-assessed at each verification.	A.3	Double counting with other emissions trading schemes shall be re-assessed on an annual basis. TerraPass is submitting a signed statement that double counting has not occurred with this validation, and shall submit a newly signed statement at each future verification.	☒

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
1	20/05/2009 (issuance)	VCS PD "Clinton Landfill #2 Gas Collection and Combustion Project" Version 1.3	TerraPass Inc.	PDD for GSP. Client requested to revised PDD using Version 10.
2	09/25/2009	Clinton Methane Calculations V1.4	TerraPass, Inc.	Methane calculation
3	23/4/2009	Clinton Landfill 2 Flare Data 2006	TerraPass, Inc.	Flare Data
4	23/09/2009	Investment Analysis, Clinton Landfill 2 Project	TerraPass, Inc.	Investment analysis
5	02/13/2009	Approved consolidated baseline methodology ACM0001 Version 10: "Consolidated baseline and monitoring methodology for landfill gas project activities"	UNFCCC	Methodology
6		Tools for the demonstration and assessment of additionality, Version 5.2 (EB 39, Annex 10)	UNFCCC	Methodology
7		Tools to determine project emissions from flaring gases containing methane (EB 28, Annex 13)	UNFCCC	Methodology
8		Tool to calculate baseline, project and/or leakage emissions from electricity consumption Version 1 (EB 39, Annex 7)	UNFCCC	Methodology

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9		Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site Version 4 (EB41, Annex 10)	UNFCCC	Methodology
10		Tool to calculate the emission factor for an electricity system Version 1.1 (EB35, Annex 12)	UNFCCC	Methodology
11	22/04/2009 to 23/04/2009	List of Participants on-site interviews	TÜV SÜD	
12	22/09/2009	Landfill Gas Purchase Contract between DeWitt Energy Associates, LLC and Royal Energy Resources, Inc. for Clinton Landfill No. 2. Signed 24 February 2004 CONFIDENTIAL. Contains Pages 1, 2, 3, 15, 26 and 39 only	DeWitt Energy Associates, LLC	Delivery and purchase term (years) for LFG. Due to confidentiality, only Articles 1 (Definition); Article V (delivery point); Article VI (term and right to terminate; and signed page were provided.
13	23/04/2009	Verified Emission Reductions Consignment Agreement between TerraPass, Inc. and DeWitt Energy Associates LLC	Submitted by TerraPass, Inc.	Participants' agreement
14	18/11/2008	Voluntary Carbon Standard 2007.1	VCS	VCS guidelines

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15	23/04/2009	PPA Sales – DeWitt Renewable Energy Facility, Clinton, IL. 01 March 2007	Submitted by TerraPass, Inc.	PPA, cost per kWh and REC price Invoice date: 01 March 2007
16	23/04/2009	Flare Specifications, Perennial Energy, Inc.	DeWitt Energy Associates, LLC	Landfill gas flow
17	23/04/2009	Greenfield Energy Site Weekly Report (Dec 2007 to Jan 2009, 4 th week of month only)	DeWitt Energy Associates, LLC	Gross generation, engine hours and gas flow
18	23/04/2009	Illinois Environmental Protection Agency (IEPA) Permit No. 1996-I02-LFM, Modification No. 3, Log. No. 1998-174 – approving modification of an existing municipal solid waste. 30 June 1998.	Submitted by TerraPass, Inc.	Environmental Permit issued to Clinton Landfill, Inc. approving significant modification of the development and operation of Clinton landfill No. 2.
19	23/04/2009	Illinois Environmental Protection Agency (IEPA) Permit No. 1996-I02-LFM, Modification No. 51, Log. No. 2008-194 – approving modification of an existing	Submitted by	Environmental Permit issued to

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		municipal solid waste . 25 August 2008.	TerraPass, Inc.	Clinton Landfill, Inc.approving modification of the development and operation of Clinton landfill No. 2. Date of expiration is 01August 2012
20	23/04/2009	2004 Annual Facility Report per 35 Il. Adm. Code 813.504 and Gas Monitoring Report for Clinton Landfill 2. PDC Technical Services, Inc for Clinton Landfill, Inc. 28 April 2005	Submitted by TerraPass, Inc.	Environmental Report submitted to IEPA before construction of project activity
21	23/04/2009	IEPA Construction Permit. Issued to DeWitt Energy. 18 May 2005.	Submitted by TerraPass, Inc.	Construction of project activity – construction of electrical generation facility that will control landfill gas emissions by using collected landfill gas as a fuel
22	23/04/2009	CAAPP (Clean Air Act Permit Program) Annual Report and Compliance Certification, DeWitt Energy Renewable Energy Facility. DeWitt Energy	Submitted by TerraPass, Inc.	2007 Annual emissions report

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		Associates, LLC. 28 April 2008.		for DeWitt Energy Renewable Energy Facility
23	23/04/2009	2008 Annual Emissions Report. DeWitt Energy Associates, LLC. 10 April 2009	Submitted by TerraPass, Inc.	2008 Annual emissions report for DeWitt Energy Renewable Energy Facility
24	23/04/2009	Title V- CAAPP Permit and Title I Permit - Clinton Landfill # 2. IEPA. 21 Landfill # 2.	Submitted by TerraPass, Inc.	Permit to operate Clinton Landfill # 2. Issued to Clinton Landfill #2. Expiration Date: Nov 21, 2007
25	23/04/2009	Building Permit, Landfill Gas Renewable Energy Power Plant. Dept of Planning and Development, Clinton, Il. 23 February 2005	Submitted by TerraPass, Inc.	Building permit issued to DeWitt Energy Associates, LLC prior to construction of project activity
26	23/04/2009	Dewitt Country Zoning – Landfill Renewable Energy Power Plant. 02 November 2006	Submitted by TerraPass, Inc.	Zoning permit
27	22/04/2009	Federal Energy Regulatory Commission (FERC Form 556) – Certification of qualifying facility status for an existing or a proposed small power production or cogeneration facility. DeWitt Energy Associated, LLC. 10 January 2007	Submitted by TerraPass, Inc.	Certification of qualifying status for an existing or

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				proposed small power production facility
28	23/04/2009	Fire Marshall Inspection Letter on Dewitt Renewable Energy Facility. 16 January 2007	Submitted by TerraPass, Inc.	Compliance to local regulation
29	23/04/2009	Lockout/TagOut Procedures Manual for Dewitt Energy Equipment at DeWitt Renewable Energy Facility, Clinton, Il. April 14, 2009	DeWitt Energy Associates, LLC	Personnel Training
30	23/04/2009	Safety Manual for the DeWitt Renewable Energy Facility,	DeWitt Energy Associates, LLC	Personnel Training
31	12/11/2009	VCS PD Clinton Landfill #2 Gas Collection and Combustion Project Version 1.51	TerraPass, Inc	Final VCS Project document version
32	06/07/2009	TerraPass First Env 10_31 signed.pdf	Submitted by TerraPass, Inc	As required by VCS 2007_1
33	23/04/2009	Illinois EPA's "Twenty-First Annual Landfill Capacity Report – 2007 http://www.epa.state.il.us/land/landfill-capacity/2007/region-4.pdf	TerraPass, Inc	Clinton Landfill capacity (specific link provided)
34	06/07/2009	Correspondence on commercial Operation Date. 15 February 2007	TerraPass, Inc.	Project Start Date
35	14/4/2009	DeWitt Energy Associates, LLC Personnel Policy/Employee Manual for the Dewitt Renewable Energy Facility Revised April 14, 2009	DeWitt Energy Associates, LLC	Personnel training
36	06/07/2009	2003 Clinton Landfill, Inc. Annual Report. Page 12	TerraPass, Inc.	Start operation of Landfill Gas collection system
37	06/07/2009	2005 Clinton Landfill, Inc. Annual Report. Pages 9-14.	TerraPass, Inc.	Environmental compliance

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38	06/07/2009	2006 Clinton Landfill, Inc. Annual Report. pages 9-14	TerraPass, Inc.	Environmental compliance
39	06/07/2009	2007 Clinton Landfill, Inc. Annual Report. pages 9-14	TerraPass, Inc.	Environmental compliance
40	06/07/2009	"Clinton Landfill 2 Permit No. 1996-102-LFM". IEPA. 14 August 1997	TerraPass, Inc.	Environmental Permit by IEPA; Issued Aug 14, 1997 Expiration Date is Aug 1, 2012 – approving development and operation of an existing MSW and non-hazardous special waste landfill based on permit no. 1996-102-LFM
41	06/07/2009	E-mail on project start date	TerraPass, Inc	VCS explanation on project start date
42	06/07/2009	Investment tax credit	TerraPass, Inc.	Investment tax credit
43	20/05/2009	Landfill Gas to Energy Project Development Handbook. USEPA. 1996	TerraPass, Inc.	IRR for benchmark analysis, see page

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				6-3
44	06/07/2009	Power Purchase Agreement Between Ameren Energy Marketing Company and DeWitt Energy Associates, LLC. August 2005 (CONFIDENTIAL)	TerraPass, Inc.	Electricity rate
45	31/07/2009	Project boundary correspondence	TerraPass, Inc.	Project boundary
46	31/07/1998	35 Illinois Administrative Act Part 220 Filename: 35 IAC Part 220	State of Illinois	Environmental Regulation
47	25/09/2009	Clinton O&M Cost.pdf	TerraPass, Inc.	O&M Cost
48	25/09/2009	Amended and Restated Landfill Gas Purchase Agreement Between DeWitt Energy Associates, LLC and Royal Energy Resources, Inc. For Clinton Landfill No. 2. Signed 5 June 2008	TerraPass, Inc.	Gas license payment. Proof that carbon credits was considered prior to project start
49	25/09/2009	http://inflationdata.com/inflation/Inflation_Rate/HistoricalInflation.aspx?dsInflation_currencyPage=0	TerraPass, Inc	Inflation rate applied to O&M Cost
50		USEPA Landfill Methane Outreach Program (LMOP) database. http://www.epa.gov/lmop/proj/xls/opprjlmopdata.xls	USEPA	List of landfills with gas to energy projects
51	12/11/2009	Project participants confirmation that the project activity is not included to other standards or schemes intended to generate Voluntary Emission Reductions or renewable energy certificates.	TerraPass, Inc.	VCS Requirement

Note: Submission dates unless otherwise indicated.