

VCS PROJECT REVIEW REPORT

Project ID	337
Project Name	Methane Recovery Project Princepeel Wilbertoord, North Brabant, The Netherlands
Project Proponent	B.V. Landgoed do Principeel
Methodology	AMS-III.D Version 11
Sectoral Scope(s)	1 Energy Industries, 13 Waste Handling and disposal, 15 Livestock and manure management
Validation/Verification Body (VVB)	TUV Rheinland Energie Und Umwelt GMBH
Registry	APX

Assessment Criteria	VCS <i>Standard</i> version 3.5
Date of First Issue	16 May 2014
Date of Second Issue	10 June 2014
Date of Third Issue	27 June 2014
Date Closed	17 April 2015 (Unresolved findings)
Date Reopened	21 March 2018
Date of Final Issue	09 April 2018

Summary:

An accuracy review of the “Methane Recovery Project Princepeel Wilbertoord” issuance request has been conducted by VCS in accordance with Section 4.3 of the *Registration and Issuance Process*.

The accuracy review has raised 4 assessment findings and 1 minor finding, detailed below. The VVB, in coordination with the project proponent, is hereby required to provide a response to the assessment findings presented in section 1. The 4 assessment findings must be addressed to the satisfaction of VCS. The VVB need not to address the minor finding during this review. Please note though that where VCS finds consistent minor findings by the VVB in future reviews, minor findings shall be escalated to assessment findings.

This findings report may be made publically available, confidential information may be provided as

separate attachments.

1 ASSESSMENT FINDINGS

Finding 1:

According to the applied methodology AMS III.D version 11, “*Flow meters, sampling devices and gas analysers shall be subject to regular maintenance, testing and calibration to ensure accuracy.*” The project description also states on page 20 that ‘*All instruments will be subject to regular maintenance, testing and calibration to ensure accuracy*’.

On page 9 of the monitoring report for 1 Jan 2012 to 31 Dec 2012, the QA/QC procedure for the power meter measuring Electrical energy produced (EEP) is explained as, “*Precision is very high (uncertainty > 0,5). Calibration not necessary*”. It is also noted that this project utilizes a methodology deviation where the biogas flow is not measured but back calculated using the EEP, all emission reduction calculations therefore now completely rely on the measured value of EEP.

VCS requests the VVB to clarify how they validated that that a calibration of the power meter is unnecessary and how the project meets methodology and project description requirements, especially given the critical nature of the specific parameter in the emission reduction calculations.

VVB Response:

Installation and operation of any power meters is regulated by law. The operator cannot even access the meter (or manipulate it as it is sealed by officials). This is a common fact in EU countries, calibration is not even possible, accuracy provided and safeguarded by law through a competent authority.

(For information: Authorities require meters to be initially qualified (DU: “Eichung”) which is similar to a calibration but can only be conducted by a competent authority)

VCS Response:

The additional information provided by the VVB clarified that the electricity meters were in fact all calibrated on 13/12/2012 and was thus in line with methodology requirements. However, given the initial statement in the monitoring report on page 9 states that, “*Calibration not necessary*”, the update of the monitoring report to accurately reflect that the meters measuring electrical energy produced is actually calibrated would be required to close this finding. This finding remains open.

VVB Response 2nd

The VR indicates on page 6 the calibration report of the meters installed. This report has been attached whereas page 12 refers to the applicable procedures. The meters are identified as Class 1 meters. Calibration was done by “Fudura”. The VVB assumed the statement “*calibration not necessary*” refers to any further calibrations.

The PP has updated the MR.

VCS Response:

VCS accepts the clarification of the updated Monitoring Report submitted to VCS that states on page

9 that meters are calibrated by an outside entity in addition to the attached calibration report as sufficient evidence that meters are calibrated. This finding is considered closed.

Finding 2

According to the *VCS Standard* Section 3.5.1, “Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification.”

On page 10 of the verification report for monitoring period 1 Jan 2012 to 31 Dec 2012 a methodology deviation of the monitoring of the biogas flow was described as:

The biogas flow is not measured, since no flow meter has been installed. During the 1st Monitoring Period, it was agreed to determine the biogas flow based on the net electricity generation of the 5 CHP units, i.e. implementing calculations from the CCX Agricultural Methane Gas Project Guidelines.

However it was not clear how the deviation was actually validated to be appropriate given VCS requirements on methodology deviations.

Given the requirements of *VCS Standard* Section 3.5.1, VCS requests the VVB clarify how this deviation was confirmed to be acceptable.

VVB Response:

The calculation follows an indirect approach to determine feed gas volume to the CHP. As explained, the metering (of electricity) is very accurate where in combination with the conversion efficiency of the devices an indirect calculation is possible. Direct measurement of volumetric flow would not lead to any improvement of the overall uncertainty which is derived from methodological calculations.

VCS Response:

The VVB has provided additional information and clarified that the deviation was validated to be appropriate as it uses direct measurements of methane concentration and electricity generation, manufacturer’s specified values for generator efficiency was also used. However, it is still unclear how the calorific value of methane used in the deviation calculation was determined and the source if a default value was used. The VVB is requested to clarify how the calorific value of methane was verified. Please note that the monitoring and verification reports will also need to be updated to reflect this information in order to close the finding. This finding remains open.

VVB Response 2nd

Page 12 of the VR describes the parameters monitored and how the accuracy/applicability has been reviewed. For the calculation of the heating value (relevant here is the methane content) it is also referred to the calibration of those meters.

The calorific value itself has been derived from common stoichiometric combustion calculation of methane, since methane is measured. The calculation is common knowledge, hence known to the VVB and was therefore verified to be correct by means of reviewing the stoichiometric combustion calculation of Methane: $802,6 \text{ kJ/mol} / 0.02241 \text{ m}^3/\text{mol} = 35,81 \text{ MJ/m}^3 = 10 \text{ kWh/m}^3$.

VCS Response:

The response by the VVB clarifies that the default calorific values for Methane used are from stoichiometric combustion calculations of Methane. For transparency purposes, the relevant project documents will need to be updated to include source for these default values. This finding remains open.

VVB Response:

The monitoring and verification reports have been updated to include the information on stoichiometric combustion calculation of Methane to determine the calorific value.

VCS Response (April 2018):

The updates made to the monitoring and verification reports are sufficient to close this finding.

Finding 3

Section 3.1.3 of the *VCS Standard* states, “*Projects shall apply methodologies eligible under the VCS Program.*”

The project uses a security factor of 0.5 on the emission reductions claimed by the project, cited on page 16 of the monitoring report for 1 Jan 2012 to 31 Dec 2012. The security factor and the value of 0.5 is not found in the methodology applied nor mentioned in the project description. It is therefore unclear the reason this value was applied, especially considering the project’s emission reduction volumes before the security factor is applied significantly exceeds the annual 60,000 tCO₂e limit of the methodology AMS III.D version 11.

The VVB is request to clarify on how it was validated that the application of this security factor and the use of the value of 0.5 is appropriate.

VVB Response:

The factor does not relate to methodological calculation-algorithms but rather to the methodologies conservativeness principles. This means the factor is principally “appropriate” as it only respects conservativeness and nothing else. As the project was developed a long time ago the methodological approaches and guidelines were immature, hence the PD included a safety factor to support assumptions in a conservative manner.

VCS Response:

While it is recognized that the application of the value of 0.5 to the total emission reductions would reduce claimed emission reduction volumes, this step do not appear to be in the applied methodology or the registered project description. Additionally it is not clear why the value of 0.5 was selected. The VVB is requested to clarify exactly how it was verified that use of the security factor of 0.5 was appropriate for this project. This finding remains open.

VVB Response 2nd

The methodology serves as the tool for quantification during the Verification process. The conservativeness factor (here: 0,5) has been applied to the project itself, hence the conservativeness principles of 14064/VCS Standard.

Methodology = Quantification during Verification

Conservativeness = GHG Program (14064/VCS)

We would like the VCS to acknowledge again that there is NO relation between methodology and THIS factor during the Verification. The additional security factor of 0.5 was selected deliberately and was verified because any additional security factor in view of the VVB appropriately serves the conservativeness principles.

VCS Response:

VCS is well aware that the security factor does not stem directly from the methodology, this was one of the reasons why this finding was raised in the first place as there appears to be no basis for the application of this value.

Furthermore, this value was not found in the project description or the validation report, indicating that this security factor was introduced during the verification. While the VVB has emphasized that the application of the security factor reduces the GHG emission reduction claimed and is therefore conservative. It is not explained clearly in either the monitoring report or the verification report on why such a conservative security factor was required to begin with and why the value of 0.5 specifically was appropriate. This is especially relevant given the emissions reductions claimed by the projects before the application of the security factor is significantly over the emissions reduction cap of 60 ktCO₂e cap of the applied small scale methodology.

In the event that there is no justification for the application of this security factor, it may be possible to resolve the concern of the emission reductions being over the allowable cap for a small scale methodology using paragraph 91 of the CDM project standard. However, in order to ensure this guidance is appropriately applied VCS requests the VVB or project proponent to provide an explanation for why project emission reductions for this monitoring period were 119,765tCO₂e per year before the use of the security factor, which is significantly greater than the emission reductions claimed in the first verification period (without the application of the security factor) and the project description.

VVB Response:

The project was validated in 2007 under the methodology AMS III.D version 1.1. At the time of

validation the most up to date numbers on the amount and type of manure to be treated in the plant result in emission reductions (~20.000 t CO₂e) that were well within the limits of the small scale methodology. Hence, the methodology AMS III.D has been correctly chosen for this project.

The assumptions made in the PDD are based on a project setup that still is valid. The number and capacity of digesters in the initial project description does match the capacity that was available in 2012. The capacity in the digesters determines the projects capacity to capture and destroy Methane which is the basis for calculation in the monitoring.

However, the amount and type of manure has changed over the years. Higher amounts of manure and manure with a dry matter content have been treated than initially planned. This has resulted in an increase in emission reductions.

This development is attributed to the higher manure surpluses that the Netherlands have been experiencing and that could not have been anticipated. Dutch policies have been developed to address these issues on a national level and reduce the amount of manure surplus again. See: <http://www.holanda.es/media/52510/present.%20h.%20smit%20pdf.pdf>

The issue of exceeding the small scale emission reduction cap of 60.000 t CO₂e based on the validated PDD is independent of the application of a security factor of 0.5 during the monitoring and verification.

As the project was developed a long time ago when the methodological approaches and guidelines were immature, the project developer included the security factor of 0.5 to observe a conservative approach. The VVB sees the application of a security factor of 0.5 as an appropriate step of the project developer following the conservativeness principle prescribed by the VCS methodology as well as ISO 14064.

The VVB is of the opinion that the project has been correctly validated under the small scale methodology AMS III.D 1.1. and that the original assumptions from the PDD are still valid today. The project developer could convincingly demonstrate that the increased emission reductions in the following years resulted from the higher manure surpluses available in the Netherlands, a development that could not have been anticipated at the time of project development. The manure surpluses are projected to decrease again in the future.

VCS methodologies do not foresee any revocative action in such cases and the VVB does not see a reason to issue anything but a positive verification statement.

The verification report has been updated to appropriately include a discussion of the increased emission reductions as well as the application of a security factor of 0.5.

VCS Response (April 2018):

The explanation of the security factor provided in this report and increase in emission reductions achieved compared to estimated emission reductions, and the updates made to the verification report, are sufficient to close this finding.

Finding 4

Section 3.1 of the verification report states that:

VVB confirms that no risk of double counting is faced, since only ER credits for the methane recovery due to the project are claimed. It was proved that these activities are not counted towards the national emission targets because biogas production is not mentioned in the national inventory of the Netherlands. Thus, ER credits are claimed only under the Verified Carbon Standard (VCS).

However, the report titled “Greenhouse gas emission in The Netherlands 1990-2012” ([National Inventory Report 2014](#)) indicates on page 104 that 4B emissions ‘*Manure management*’ was included in the national inventory of the Netherlands.

Given the project reduces emissions by destroying methane released from manure, the VVB is requested to clarify how it was validated that the project activity is not considered to be manure management and ultimately there is no risk of double counting of emission reductions?

VVB Response:

The validation was done as stated in the VR (citing above ...” because biogas production is not mentioned in the national inventory”...). Manure Management is the general source of emissions in the NIR. However the activity subject to the PPs proposed emission reductions is NOT covered in the NIR. This is mentioned in section 6.3.8 of the NIR, page 108.

The entire subject was clarified between the PP and VCS beforehand, as in the mail between Mr. Bossen and E. Silverstein of Jan 28th. [...]”According to the NIR document that you had linked to in your initial email, the Netherlands is not currently including biomass anaerobic digesters in their emissions cap meaning double counting would not be an issue for projects currently using biomass anaerobic digesters in the Netherlands”...”]

VCS Response:

Please note that the clarification from VCS quoted above was meant to be specifically to biomass anaerobic digesters within National Inventory Report. From the information provided, VCS understands that the VVB considers there to be low risk of double counting with other GHG programs. However, while this may be the case for the EU ETS, considering that methane emissions from the agriculture sector (including manure) are included in the Kyoto protocol and the Netherlands is an Annex I country with allocated AAUs under the Kyoto protocol, the VVB is requested to clarify how it was determined that the emission reductions from destroying manure methane emissions due to the project activity would not result in double counting with the Netherlands’ Kyoto commitments. This finding remains open.

VVB Response 2nd

As explained several time during the phone conference of 10th June, 2014 the NIR has nothing to do with the EU-ETS. The NIR is directly linked to the Kyoto commitments and hence the AAU

accounting.

This means:

Biogas digester not covered in NIR *and*

NIR used for Kyoto accounting only →

not under Kyoto commitment =

No double-counting relevance.

Please acknowledge that the EU-ETS is a system for installation compliances only.

VCS Response:

The information provided in the VVB response is insufficient to close this finding. As stated previously, VCS agrees that this project activity would not have double counting risks with the EU ETS as the EU ETS specifically states that it does not cover agriculture activities. The original finding question was in concern on how the VVB validated that there was no double counting with the Kyoto Protocol.

As stated previously, the Netherlands is an Annex I country under the Kyoto protocol. As an Annex I country the Netherlands is allocated AAUs (Assigned Amounts Units) as a form of an allowance and must meet GHG emission reduction targets at the end of the relevant commitment period.

Annex A of the Kyoto Protocol specifies the GHG gases covered by the Kyoto Protocol and it states that GHG emissions from the Agriculture sector including 'manure management' are covered by the protocol. Subsequently, given the project activity involves the reduction of emissions from manure and the period of activity overlaps with the second commitment period of the Netherlands under the Kyoto Protocol, there is a risk that emission reductions from the project activity will also be counted towards the Netherlands's targets under the Kyoto Protocol.

While it is correct that the Netherlands National Inventory Report (NIR) stated that the Netherlands is currently only examining anaerobic digester technologies, this statement is not relevant to the final calculation of emissions from the Netherlands agriculture sector. VCS views this as the Netherlands not having taken into account the potential impact of the technology on GHG emissions in the agriculture sector and not a case that the GHG emissions from the agricultural sector are excluded from the country's Kyoto commitments. Please note, it is not the intention of the VCS rules to allow crediting based on a difference of opinion in the way the national accounts are done.

The GHG gases and sources/sectors covered by the Kyoto protocol is covered in Annex A of the protocol itself and the purpose of the NIR is to report to the UNFCCC the country's emissions of these covered GHG gases by the various covered sectors. The statement in Section 6.3.8 of the NIR refers to possible future improvement on GHG emission mitigation technologies, however the NIR reports on the country's emissions which included those from the agriculture sector and manure management.

It is the intention of VCS rules to exclude projects that operate in sectors that are covered under the Kyoto Protocol as is discussed in Section 3.11.2 of *VCS Standard*. VCS's conclusion is that the sector and GHG gases for this project are specifically stated in Annex A of the Kyoto protocol.

Given information provided above, VCS remains of the view that the credits claimed by this issuance request would have significant double counting risks. However, the VVB and project proponent is invited to provide VCS a formal submission of their position on this matter for final deliberation. This formal submission may in the form of a separate attachment to any response to this findings report.

VCS Response (March 2018):

The project proponent provided sufficient evidence to demonstrate that double counting is not an issue for the emission reductions generated during the 01/01/2012 – 31/12/2012 verification period. In particular, the project proponent provided evidence from the government that the emission reductions in question are not captured in the national inventory, and therefore double counting is not an issue. This finding is considered closed.

2 MINOR FINDINGS

Finding 1

In Section 3.6 of the *VCS Standard* project description deviations are defined. While the VVB identifies three project description deviations on page 10-11 of the verification report, the deviation related to the number of CHPs installed are not project description deviations. This is due to the fact that the project description do not provide a schedule for the installation of additional CHPs that the project implementation has deviated from, nor did the number of newly installed CHPs exceed the maximum that was described in project description.

In future audits, the VVB is requested to only include project description deviations that meet the definition in Section 3.6 of the *VCS Standard* and to seek additional guidance from VCS where appropriate.

-Glad to hear changes in implementation section, not need to highlight it deviation section, other VVBs would not need to include a discussion of this in the next report.

3 ASSESSMENT CONCLUSION

The second, third and fourth assessment findings of this report were not addressed to the satisfaction of VCS. Given the time passed since the last contact with the project proponent concerning these findings (27 June 2014 – 17 April 2015) and VCS's repeated attempts to receive responses on these issues, VCS has decided to close this review without successfully resolving all findings. The project will need to submit responses to all assessment findings in order to issue any credits in the future.

The accuracy review was reopened on 21 March 2018, per Section 4.3.13(6) of the *Registration and Issuance Process*. The project proponent submitted sufficient evidence to VCS to demonstrate that double-counting was not an issue for emission reductions generated during the verification period, and VCS closed the fourth assessment finding. Further responses were submitted regarding the second and third assessment findings on 5 April 2018. The responses to the third and fourth assessment findings were sufficient to close all findings, and the accuracy review was closed on 9 April 2018.