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Final Verification Report

Brokenlande Biogas Project

ARA Bioenergie Brokenlande GmbH & Co. KG

Großer Burstah 31

20457 Hamburg, Germany

under CSA CleanProjects registry

26 Apr 2010

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1. Verification Summary

Project name:	Brokenlande Biogas Project
Project location:	Street: Brokstedter Str 1 Town: Großenaspe Postal Code: 24623 Country: Germany
Type of project:	Methane venting reduction GHG emission reduction ,
Project proponent:	Greenstream Network Biogas GmbH
Responsible party:	Greenstream Network Biogas GmbH
Intended user:	ARA Bioenergie Brokenlande GmbH & Co. KG
Validator:	Self declaration
Verifier:	TÜV Rheinland TIE
Verification timeframe:	April 2010
Lead verifier:	R. Wollenweber
Internal peer review:	J. Reinhardt EU ETS verifier, CDM expert
Applied standard for verification::	14064-3
Verification criteria:	14064-2, reasonable level of assurance
Materiality threshold:	5 %
Level of assurance:	reasonable
Total GHG emission reduction [Ton CO_2e]:	4220
GHG emission reduction time period:	May 1st 2009 – Dec 31st 2009
Organizational/ project boundaries:	Biogas CHP, 1 installation on-site
Types of GHG´s	Methane

Project Verifier Company Name: TÜV Rheinland Immissionsschutz und Energiesysteme GmbH
Verifier(s) Contact Name(s): Roland Wollenweber
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2. Verification schedule

ARA Bioenergie Brokenlande GmbH & Co. KG (ARA) contracted TÜV Rheinland TIE with verification of the project on April 13th 2010. The internal review of documents provided by ARA trough Mr. Bossen (assigned by ARA) was initiated on the same day. An on-site visit was planned and conducted on the 16th of April. According to ISO 14064-3 the verification was scheduled as follows:

Date	Procedure	Responsibility
March 1st	The client requests a quote for verification	Greenstream
March 10th	TIE is submitting the proposal for verification of the biogas project	TIE
April 13th	contract award	ARA
April 13th	first review of documents, esp. GHG report	TIE
April 14th	agreement on: level of assurance, objectives, criteria, scope, materiality	ARA, TIE
April 15th	preparation of verification plan	TIE
April 15th	preparation of sampling plan	TIE
April 16th	On-site visit	TIE, ARA
April 21st	Initiation of final verification assessment/ desktop review	TIE

3. Verification planning

Development of a verification and sampling plan is a fundamental requirement as indicated in ISO 14064-3 4.4.2/3. The verification and sampling plan shall be revised or changed as necessary during the course of verification. The sections below represents the final version of the verification plan. However the verification plan and the sampling plan were not updated during the commencement of verification because they were considered to remain appropriate after the verification approach.

The biogas project facility has been operated with one single CHP unit prior to the extension of the plant by one additional CHP unit with a net el. output of 500 kW. The unit (referred to as Unit2) is exclusively fed by the digesters where manure and co-substrates are processed and has been put into operation May 25th 2010. The other unit solely processes renewable raw-material and must not be taken into account in consideration of any GHG reduction assertions. Therefore the emission reductions claimed by this verified GHG emission reduction project cover the period from May 1st to December 31st of 2010.

3.1. Level of assurance

As a requirement of CSA CleanProjects the GHG assertions have to be verified to a reasonable level of assurance. It is therefore necessary to express a conclusion in the verification statement with a relative degree of confidence, indicating that the representation of the GHG assertions is materially correct, reflects a fair representation of the actual GHG data and information and is prepared in accordance with applicable international or national standards or best practise.

3.2. Objectives

It is of importance to any GHG program provider to be assured that GHG assertions have been made in accordance with the intent of the program itself. Consequently the common objective is the provision of assurance that the GHG assertions truly represent the GHG emission reductions achieved by the project without any material misstatements or omissions.

The project will eventually generate VERR related to the achieved GHG emission reductions during the specified time period. Therefore conformance with the applicable verification criteria and positive verification of the methane venting reductions shall be the verification objective. The ex-ante baseline scenario of the proposed project is of secondary importance concerning the verification of the actual Methane reduction achievements.

The focus of the verification shall be the accurate reporting of gainfully used biogas with its specific methane content during the monitoring period because this does reflect the most exact amount of GHG emission reductions.

3.3. Criteria

According to the program specific requirements of CSA CleanProjects the minimum verification criteria must include:

- conformance with the requirements and principles of ISO 14064-2,

- the data supporting the GHG calculations have sufficient controls to be considered fair and accurate and without material discrepancy;

- the calculations supporting the GHG assertion are sufficiently accurate to be considered fair and accurate and without material discrepancy;

- there are no competing claims to the ownership of the GHG Project and the resulting emission reductions or removals.

- the verification statement indicates reasonable level of assurance

3.4. Scope

The project boundary is the physical, geographical site of the manure generation and management system, and the facility which gainfully uses the methane. Ownership of the project and claiming issues can be resolved by investigating on the German approval according to the Federal Immission Control Act.

According to CDM guidelines AMS-III.D Version 16, sectoral scope 15 “the emission reductions achieved by the project activity will be determined ex post through direct measurement of the amount of methane […] gainfully used”.

The emission reductions of each year are the lowest value of either the ex-post baseline emissions minus the ex-post project emissions or the measured value of methane captured and destroyed or gainfully used minus the ex-post project emissions from use of fossil fuel or electricity for the operation of the facilities. This does however require exact knowledge of the population of animal livestock, which is why the latter equation shall apply as the manure gathering grounds expand around the entire district.

Physical infrastructure of the site will be easy to access and the process flow can be verified in accordance with the physical situation of piping and digesters.

The GHG sources and sinks relevant for the assessment are given in the table below. Some of the sources and sinks have been disregarded by the responsible party concerning the determination of GHG reductions compared to the baseline scenario, for reasons of irrelevance or conservativeness.

Table 1: Inventory of sources sinks

No	GHG Source	Baseline	Project
1	CO_2 emissions from fossil fuels to generate electricity.	Electricity will be generated according to grid power mix.	Electricity is generated by means of CHP utilizing biogas.
2	CO_2 emissions from fossil fuels to generate heat	Heat will be generated using heating oil	Process waste heat of CHP will be used
3	CH_4 emissions released during the decomposition process of manure	Manure is stored in basins resulting in uncontrolled methane release	Methane will be gainfully destroyed in the CHP process.
4	N_2O and CO_2 emissions from the production of artificial fertilizer	Artificial fertilizer is used	Demand for artificial fertilizer is reduced
5	CO_2 emission related to grid electricity production, heat consumption by the project activity	The emissions would not occur	The project causes parasitic energy consumption
6	CO_2 emissions from burning of diesel fuel by trucks transporting manure and co-ferments	The emissions would not occur	The manure is transported from within the area
7	CH_4 emissions from leakage or incomplete methane combustion.	The emissions would not occur	The emissions depend on the technology

	GHG Sink	Baseline	Project
8	CO_2 and Nitrogen sink in the co-ferments probable used in the project	The co-ferment is considered a sink and would not be fermented in absence of the project	The co-ferment generates methane which is gainfully used in the CHP process

As stated in the GHG report sources 1 and 4 to 7 have not been taken into account when calculating the emission reductions. Special attention shall be given to sources 5 to 7 as the emissions do contribute to project related additional emissions that would not occur in case of absence of the project. The verification of related statements shall be relevant.

Source 1: “Conflict with Renewable Energy Act.”

Source 4: “The reduction potential is too low.”

Source 5: “The energy balance is positive”

Source 6: “The emissions account for less than 1% of total emissions”

Source 7: “State of the art technology prevents methane leakage”

The time period of the project is 8 months starting in May 2010 which can be verified by investigation of the approval according to Federal Immission Control Act and monitoring data.

3.5. Materiality

The objective of the project verification is to provide assurance to ARA and ultimately the buyer of VERR’s that GHG assertions truly reflect the emission reductions achieved. A material discrepancy is, according to ISO 14064-3, characterized by the possibility that the intended user of the GHG assertions will be influenced by such a discrepancy.

However no quantitative threshold is defined by either the standard or the GHG program (CSA CleanProjects), which is why the threshold shall be defined as 5 % of the overall GHG project emission reductions.

This does conform to the materiality thresholds stipulated in the EU monitoring guidelines applied to facilities with CO_2 emission lesser than 500 ktons.

3.6. Risk assessment

The risks associated with the monitoring of the GHG data and information are subdivided into inherent risks, control risks and detection risks. The following table aggregates all activity data, emission factors and flow properties that are relevant for the monitoring of methane that is gainfully destroyed in the CHP process.

Table 2: Risk assessment of monitoring

Activity data	unit	monitoring	device	risk			effect
				i	c	d	
biogas to CHP	m^3	continuous automated logging	flow meter / velocity	l	l	l	h
heat to greenhouse	kwh	continuous hand recording/spreadsheet	heat meter	l	m	m	m
electric energy import CHP	kwh	continuous automated logging	power meter	l	l	l	l
electric energy export CHP	kwh	continuous automated logging	power meter	l	l	l	l
CHP runtime	h	continuous automated logging	runtime counter	l	l	l	l
co-ferment to digester	t	per activity hand recording/ transscription	scale	m	m	h	h
manure to digester	t	per activity hand recording/ transscription	scale	m	m	m	l
Properties							
methane	Vol%	continuous automated logging	gas analyzer	l	l	l	m

The identification of the highest risk causing material misrepresentation can be derived from above table. The method of mitigating these risks will be addressed more detailed in the sampling plan section. However the focus of investigation is clearly the amount of biogas that utilized in the CHP and the co-ferment fraction that is used as digester supplement.

The main risks related to verification can be outlined as follows:

- There are two biogas units within the plant. Biogas of the unit where only renewable matter is processed must not be fed into the CHP unit that accounts for the methane reductions.
- The amount of co-ferment and the biogas produced from it respectively, must be properly deducted from the methane reduction claims.
- The heat utilization for the digester must not be included in the emission reductions claimed according to substitution of fossil fuel.
- The parasitic power consumption must be deducted from the energy that is fed into grid.
- No additional substrates that are not accounted for must be added to the digester that would contribute to methane production (glycerin).
- The specific methane conversion factors of co-ferments and the methane content in the produced gas respectively must be properly chosen.

3.7. Preliminary findings

The preliminary findings are based on the information available in the GHG-report document , interviews conducted in advance of the on-site assessment and the spreadsheet used for project emission reduction calculation.

Clearly the monitoring methods represent state of the art technology especially since the facility has been installed very recently in 2008. The monitoring data provided, allows plausibility checks and has been recorded in an appropriate way. All issues concerning the methodology applied, financing and baseline scenario have been addressed properly.

The spreadsheet used for project emission accounting has been reviewed and apart from very few transcription errors is consistent with the statements and declarations made. The calculation of the baseline scenario is also comprised within the spreadsheet.

4. Sampling plan

The sampling plan is based on the findings from the verification planning and especially the risk assessment. The samples will be taken on-site during the collection of evidence.

4.1. Activity data

biogas to CHP

activity: examination of the flow meter regarding suitability of the device, correct installation, operation and integration in the data logging system. recording of current reading.

documentation: data sheet, accuracy, values from monthly reports, raw data log-file

heat to greenhouse

activity: examination of the flow meter regarding suitability of the device, correct installation and operation. recording of current reading.

documentation: datasheet not required if standard device (for official accounting), accuracy, monthly reports.

electric energy from/to CHP

activity: examination of the meter regarding correct integration in logging system.

documentation: monthly reports, datasheet not required (official accounting Renewable Energy Act)

CHP runtime

activity: recording of current reading

documentation: datasheet not required, monthly reports

co-ferments to digester

activity: examination of the moving-floor device, examination of the activity log-book and the transcription to spreadsheet, examination of transcription procedure, examination of availability of co-ferment substrates on-site, examination of loading procedure.

documentation: documentation from provider, calibration protocols of under-floor scale, datasheet, accuracy check.

manure to digester

activity: examination of procedure

documentation: examination of activity log-book

4.2. Properties

methane content biogas

activity: examination of the gas analyzer regarding suitability of the device, correct installation, probe situation, operation and integration in the data logging system. recording of current reading

documentation: datasheet, accuracy

5. Verification

The verification is done in four steps

- Site visit to examine the facility as such
- Examination of the process of collecting GHG data and information
- Collecting of evidence and implementation of the sampling plan
- Assessment of GHG data and information

If necessary the sampling plan will be extended or revised in case the results from the assessment of the data management system require this.

The issues mentioned under 3.4 and 3.6 shall also be addressed properly during the course of verification.

5.1. Initial site visit

The on-site visit was conducted on the 16th of April 2010. Persons attending were:

- Marius Bossen (project manager, greenstream)
- Oscar Martin Fernandez (greenstream, operator)
- Roland Wollenweber (verifier)

The biogas plant is a dedicated facility for production of biogas and generation of heat and electricity thereof. During an interview the following issues could be addressed:

- How the performance of the CHP was and how often the flare had to be used.
- The power output of the CHP and the load-factor.
- How it is ensured that the co-ferments are properly allocated to the digester feed.
- The data management and how the data is aggregated or accumulated in the data management system.

5.2. Data Management

The data management consists of automated process control systems with data logging function, recording of hand-values and the accumulation in spreadsheet based files. All data is entered in monthly reporting log-files.

Plausibility checks are made calculating the theoretically needed amount of biogas from the net electric energy produced, the energy content of methane and the methane content in the biogas.

All documentation was available on-site and the feed log-books were done in appropriate manner.

5.3. Collecting evidence

Evidence collected during the onsite visit mainly consist of physical evidence and documentary evidence according to the sampling plan and the issues as under 3.4 and 3.6.

physical evidence inventory:

biogas flow-meter inside the CHP unit. The device is a differential pressure metering device.

heat meter to the greenhouse gas.

control unit of the CHP

moving floor scale

CHP unit

Gas analyzer

documentary evidence inventory

- GHG report.
- calculations spreadsheet for emission reductions, plausibility and ex-ante calculations.
- Datasheet and calibration protocol of the moving-floor scale.

- Datasheet of the Deutz CHP unit.
- Datasheet of the flow-meter for biogas and the differential pressure probe.
- Datasheet of the gas analyzer.
- Approval according to Federal Immission Control Act.
- Operations log-book, feed log-book.
- Raw data of gas analyzer (spot sample).
- All monthly reports (May-Dez).

5.4. Assessment of GHG data and information

project lifetime

estimated project lifetime according to GHG-report is 20 years. The likelihood for this scenario to occur depends on technical maturity and economic feasibility. 20 years however is a typical lifetime for biogas-projects.

baseline

Manure is typically stored in basins where the methane venting can not be controlled. Because of restrictions concerning direct use of the manure in Germany (water contamination) there is no other possible way of disposal. The concept of closed manure storage tanks is economically unfeasible as no benefit is generated from such an investment. The investment costs for a biogas plant vary depending on the installed power capacity. The indicated costs of € 2,550,000 are consistent with the investment costs assessed in the approval according to the Federal Immission Control Act.

completeness

The inventory of the GHG sources can be found in section 3.4. Some of the Sources and sinks have been disregarded.

Source 1: “Conflict with Renewable Energy Act.”

The electricity fed into the grid results in emission reductions because the electricity otherwise would have been produced according to grid power mix. To avoid conflict with other beneficial schemes (REA) no emission reduction claims have been made related to this source. In terms of conservativeness this can be considered appropriate.

Source 4: “The reduction potential is too low.”

The use of the remains of digested substrates as fertilizer does in theory contribute to emission reductions related to the reduction of use of artificial fertilizer. However the methodology is complex and difficult to justify which explains why the reductions have not been claimed. In terms of conservativeness this can be considered appropriate.

Source 5: “The energy balance is positive”

The energy balance of the CHP must be positive in order to justify disregard of this source.

Energy produced according to monthly reports: 2,457,096 kWh

Energy consumed according to monthly reports: 194,992 kWh

Operating hors of CHP as of April 16th (physical evidence): 7557 h

Operating hours of CHP as of Dec 31st 2010(monthly reports): 4996

Nominal Power of CHP(datasheet): 580 kW

Average power CHP (monthly reports): 471 kW

Source 6: "The emissions account for less than 1% of total emissions"

The indicated emissions in the GHG report of 5,8 tons of CO_2 resulting from transport are equivalent to 5043 km of transport by a commonly used tractor (emissions database, GEMIS). This equals 630 km of transports per month or 20 km per day.

The manure is delivered from the surrounding area and the value is consistent with what is to be expected considering the transportation frequency.

Source 7: "State of the art technology prevents methane leakage"

Concerning the given methodology for claiming of emission reductions this parameter is considered irrelevant as the methane gainfully destroyed is directly measured by means of an appropriate measuring device.

consistency

Methodologies used to determine emission reductions are adapted from approved ipcc and unfccc guidelines AMS-I.C and AMS-III.H for small scale projects.

transparency

All documents were accessible on-site. The process controls can be examined anytime and relevant information has been delivered.

verification testing

Data from documentary evidence is used to find omissions, transcription errors and inappropriate calculation routines. The GHG calculations spreadsheet was used to confirm the results by means of recalculation. Several other parameters have been checked by vouching and crosschecking against other available information. The procedure is structured by mass flux according to GHG sources and sinks:

Table 3: Verification scrutiny

SSR No.:	**name**	**crosscheck**	**ok**
2	*CO_2 emissions from fossil fuels to generate heat*	recalculation	☒
activity data	heat to greenhouse	monthly reports, recalculation, plausibility with CHP waste heat	☒
calorific value	CV diesel fuel	does not apply	☒
emission factor	EF diesel fuel	EU ETS guidelines, EPA	☒

3	*CH_4 emissions released during the decomposition process of manure*	recalculation	☒
activity data	biogas to CHP	monthly reports, recalculation, plausibility with el. energy prod.	☒
emission factor	methane content	spot sample of raw data, monthly report, recalculation of average	☒
	density methane	databases	☒
	GWP methane	unfccc, ipcc	☒
8	*CO_2 and Nitrogen sink in the co-ferments probable used in the project*	recalculation	☒
activity data	co-ferment to digester	spot sample, feed log-book, re-calculation	☒
emission factor	specific gas production values	database check	☒
	specific methane content	database check	☒
	density methane	databases	☒
	GWP methane	unfccc, ipcc	☒

accuracy

Aggregated accuracy related to the monitoring results from the measurement of the amount of biogas fed into the CHP process, the measured amount of co-ferments utilized in the digester, the methane content in the biogas and the measured amount of heat replacing fossil fueled heat generation.

Table 4: Uncertainty calculation

process	nit	device	accuracy	source
biogas	m³/hr	differential pressure probe	1 %	datasheet
		pressure transducer	0,1 %	datasheet
methane content	Vol. fraction	gas analyzer	1,5 %	testimonial
co ferment	tons	scale	3 %	datasheet
heat delivered	kWh	heat meter	1 %	gauging

The combined uncertainty for calculation of the amount of methane combusted in the CHP taking into account the accuracy of the differential pressure device itself and the pressure transducer as well as the uncertainty of the gas analyzer is:

$$U = \sqrt{(1+0.1)^2 + 1.5^2} = 1.86\%$$

Overall maximum uncertainty is expressed as the sum of the uncertainty by measuring the amount of methane generated by manure and combusted in the CHP, the amount of methane that was generated by co-ferments and the CO_2 emissions replaced or reduced by using waste heat to the greenhouse. All three mass flows account for different fractions of the emission reductions as a whole (figures in tons of CO_{2e}). Hence uncertainty is weighed, whereas the uncertainty for methane production of manure shall be equivalent to the uncertainty related to the measurement of methane by means of the flow meter.

$$U_{total} = \frac{1.86 * 4448 + 3 * 5233 + 1 * 240}{4448 + 5233 + 240} = 2.44$$

The figures 4448 and 5233 are the net emission reductions in tons CO_{2e} generated by the combustion of Methane from manure and methane from co-ferments respectively.

The total weighed uncertainty is still within the limit of the materiality threshold.

conservativeness

GHG data has been crosschecked for conservativeness. The heat amount that was utilized in the greenhouse has been directly transferred as equivalent to the calorific value of heating oil. A burner efficiency has not been taken into account. The calculated emission reduction would have been higher when incorporating a burner efficiency.

The amount of heat contributing to the emission reductions was measured at the supply line directly to the greenhouse. However heat is also being utilized in nearby buildings that are not within the operational boundaries of the plant. The emission reductions resulting from the heat are not accounted for.

Electric energy is fed into the grid which would have been produced by other means in absence of the project. To avoid conflict with other beneficial schemes (REA) the emission reductions related to electric energy feed-in have been neutralized.

A Global Warming Potential of 21 has been used for methane. According to ipcc third assessment report TAR 2001 GWP for methane is 23 and GWP value and lifetimes from 2007 IPCC AR4 is 25 and at 100 years equivalent.

A model correction factor of 0,9 for the GHG emission reductions claimed as been applied although this is not specifically required by the standard.

relevance

All relevant GHG sources and sinks have been included applying relevance criteria of 1 % of the entire GHG emission reductions. The ignored GHG sources have been deemed irrelevant in the section completeness.

5.5. Assessment against verification criteria

No material discrepancies could be identified related to GHG calculations. Project accounting and the data supporting the GHG calculations have sufficient controls and are done in accordance with ISO 14062-2 and recognized methodologies. No competing claims to the ownership of the GHG project or the related GHG emission reductions were observed.

Immaterial discrepancies have been observed calculating the emission reductions from utilization of waste heat generated by the CHP process. These discrepancies are subject to conservative consideration.

Immaterial discrepancy is the unavailability of a calibration protocol for the gas analyzer and statements regarding uncertainty of measurement. This should be resolved during the next monitoring period.

5.6. Verification of GHG assertion

Based on the review and all available documentation the conclusion is made that the GHG assertion of emission reductions of 4220 tons CO_2e over the time period May 1st, 2009 to December 31st 2009 is made in accordance with the requirements of the program and is material correct and fairly represents the GHG emissions data and information without material discrepancies.

The data result from the emission reductions from destruction of methane (4448 tons CO_{2e}) and the emission reductions by replacement of fossil light heating oil (240 tons CO_{2e}). The sum is multiplied with the model correction factor of 0.9.

5.7. Final remarks

The records especially documentation that provided the basis for the verification is available upon request.

For a follow-up verification the documentation regarding re-calibration of all relevant measurement equipment should be called in.

Verification statement

April 26, 2010

GreenStream Network Biogas GmbH

Grosser Burstah 31

20457 Hamburg

Germany

RE: Verification Statement for GreenStream Network Biogas GmbH – Brokenlande biogas project under CSA CleanPojects, period May 1st 2009 – Dec 31st 2009

Greenstream Network Biogas GmbH as responsible party providing the GHG assertions on behalf of ARA Bioenergie Brokenlande GmbH & Co. KG has engaged TÜV Rheinland Immissionsschutz und Energiesysteme GmbH to review and verify the GHG assertion made covering the period May 1st, 2009 to December 31st 2009. The GHG assertions, indicated through the GHG-report as of April 13th 2010, claim emission reductions of:

4220 tons CO_2e

over the aforementioned period.

We have conducted the verification of the GHG assertion in accordance with the requirements of the program and the standard ISO 14064-3 to a reasonable level of assurance by applying a materiality threshold of 5 %. The GHG information verified includes the GHG report delivered to TÜV Rheinland Immissionsschutz und Energiesysteme GmbH and all relevant information and evidence acquired during the verification process as stated in the verification report as of April 26th 2010.

We have come to the conclusion that based on our review and all available documentation the GHG assertion is made in accordance with the requirements of the program and is material correct and fairly represents the GHG emissions data and information without material discrepancies.

26.04.2010 / Signature
Roland Wollenweber
lead verifier

Date 26.4.10 / Signature
Jürgen Reinhardt
internal peer review

Conflict of Interest Checklist

	Yes	No	Details
Independence Remain independent of the activity being verified, and free from bias and conflict of interest. Maintain objectivity throughout the verification to ensure that the findings and conclusions will be based on objective evidence generated during the verification.	☒	☐	**Signers do not own any shares of the responsible parties or the intended users organization or have a close relationship with the client or involved organizations.** **Signer are not economically dependent on verification or other fees.**
Ethical conduct Demonstrate ethical conduct through trust, integrity, confidentiality and discretion throughout the verification process.	☒	☐	**Signers are subject to the management guidelines and compliance rules of TÜV Rheinland.**
Fair presentation Reflect truthfully and accurately verification activities, findings, conclusions and reports. Report significant obstacles encountered during the verification process, as well as unresolved, diverging opinions among verifiers, the responsible party and the client.	☒	☐	**All relevant information is comprised within the reporting document and related information and/or documentation is available upon request.**
Due professional care Exercise due professional care and judgment in accordance with the importance of the task performed and the confidence placed by clients and intended users. Have the necessary skills and competences to undertake the verification.	☒	☐	**Independent professional judgment is ensured by the internal peer review. TÜV Rheinland staff is conducting verification/validation services according to other programs especially EU ETS and programs subject to Kyoto regulations**

26.4.2010 / Date / Signature
Roland Wollenweber
lead verifier

Date 26.4.10 / Signature
Jürgen Reinhardt
internal peer review