VERIFICATION REPORT
EKORESURSAI,UAB

VERIFICATION OF THE

LAPES LANDFILL GAS UTILIZATION AND ENERGY GENERATION

MONITORING PERIOD:
01 JANUARY 2011 TO 22 DECEMBER 2011

REPORT NO. LITHUANIA-VER/0047/2012
REVISION NO.01

BUREAU VERITAS CERTIFICATION

Report No: LITHUANIA-ver/0047/2012

VERIFICATION REPORT

Date of first issue:	Organizational unit:
16/04/2012	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
EKORESURSAI, UAB	Gerardas Zukauskas, Director

Summary:

Bureau Veritas Certification has made the 3rd periodic verification of the JI Track II Project "Lapes Landfill Gas Utilization and Energy Generation", JI Registration Reference Number 0049, project of Ekoresursai, UAB, located at Lapes Subdistrict, Kaunas District Municipality, Lithuania applying the project specific methodology on the basis of UNFCCC criteria for the JI as well as the criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during the defined verification period, and consisted of the following three phases: i) a desk review of the project design, baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of Clarification, Corrective Action Requests, Forward Action Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. The installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is ready to generate GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions or misstatements, and is total 33101 tons of CO2eq for the monitoring period 01/01/2011-22/12/2011.

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and to the approved project baseline and monitoring, and its associated documents.

Report No.:	Subject Group:	
LITHUANIA-VER/0047/2012	JI	
Project title:		
Lapes Landfill Gas Utilization and Energy Generation		
Work carried out by:		
Tomas Paulaitis:	Lead Verifier	
Work reviewed by:		
Ashok Mammen:	Internal technical reviewer	
Kęstutis Navickas:	Technical specialist	
Work approved by:		
Witold Dzugan		
Date of this revision:	**Rev. No.:**	**Number of pages:**
16/04/2012	01	23

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1 INTRODUCTION

Ekoresursai, UAB has commissioned Bureau Veritas Certification to verify the emission reductions of its JI project “Lapes Landfill Gas Utilization and Energy Generation” (hereafter called “the project”) at Lapes Subdistrict, Kaunas District Municipality, Lithuania. This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC criteria, as well as the criteria given to provide for consistent project operations, monitoring and reporting.
The order includes the third periodic verification of the project for the period 01/01/2011-22/12/2011.

1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during a defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

1.2 Scope

The verification scope is defined as an independent and objective review of the project design document, the project’s baseline study, monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Verification Team

The verification team consists of the following personnel:

Tomas Paulaitis
Bureau Veritas Certification Team Leader, Climate Change Verifier
Tomas Paulaitis is a lead auditor for the environment and quality management systems with over 10 years of experience and a lead GHG verifier (EU ETS, JI, CDM) with over 6 years of experience in energy, oil refinery and cement industry sectors, he was/is involved in the determination/verification of more than 50 JI projects. Tomas Paulaitis holds a Master's degree in chemical engineering.

This verification report was reviewed by:

Mr. Ashok Mammen
Bureau Veritas Certification Internal reviewer
Over 20 years of experience in chemical and petrochemical field. Dr. Mammen is a lead auditor for environment, safety and quality management systems and a lead verifier for GHG projects. He has been involved in the validation and verification processes of more than 100 CDM/JI and other GHG projects.

Kęstutis Navickas, Associate Professor, Dr.
Bureau Veritas Certification Technical specialist
Kęstutis Navickas is Head of the Lithuanian Academy of Agriculture department of Agroenergetics. He has more 15 years of experience with the research and development in the renewable energy and bioenergy sectors (more than 10 projects).

2 METHODOLOGY

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a verification protocol was customized for the project, according to version 01.1 of the Joint Implementation Determination and Verification Manual, issued by the Joint Implementation Supervisory Committee at its 19 meeting on 04/12/2009. The protocol shows, in a transparent manner, the criteria (requirements), means of verification and results from verifying the identified criteria. The verification protocol serves the following purposes:

- It organizes, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent verification process where the verifier will document how a particular requirement has been verified and the result of the verification.

The completed determination protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The Monitoring Report (MR) first version dated 15/02/2012 (monitoring period 01/01/2011-31/12/2011) submitted by Ekoresursai, UAB and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Project Determination Report, previous verification report, Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the project as described in the final PDD version 9 dated 10/11/2009 and the revised Monitoring Report version 2 dated 14/04/2012 with revised monitoring period (01/01/2011-22/12/2011) which was issued in order to resolve CAR1 (see 3.3 below)

2.2 Follow-up Interviews

On 20/03/2012 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of were interviewed (see 5 References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

3 Interviewed organization	4 Interview topics
5 Ekoresursai, UAB	6 Organizational structure, responsibilities and authorities 7 Project implementation and technology 8 Training of personnel 9 Quality management procedures 10 Metering equipment control 11 Monitoring record keeping system 12 Environmental requirements 13 Monitoring plan 14 Monitoring report

14.1 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that need to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

If the Verification Team assessing the monitoring report and supporting documents identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;

(b) Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the monitoring plan;

(c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

15 VERIFICATION CONCLUSIONS

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

The findings from the desk review of the original monitoring documents and the findings from interviews during the follow up visit are described in the Verification Protocol in Appendix A.

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 2 Corrective Action Requests, 0 Clarification Requests, and 0 Forward Action Requests.

The number between brackets at the end of each section corresponds to the DVM paragraph.

15.1 Remaining issues and FARs from previous verifications

There were no FAR's issued during the previous verification.

15.2 Project approval by Parties involved (90-91)

Written project approval has been issued by the Swedish DFP (Swedish Energy Agency) of that Party when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest (LoA is issued on 09/08/2010).

The abovementioned written approval is unconditional.

15.3 Project implementation (92-93)

The project implementation has been checked according to the information provided in the PDD already during the 1st verification. The plant started to extract and flare landfill gas in June 2008 and was ready to generate emission reductions before the start of the 1st monitoring period (1 July 2008). Production and monitoring of the electric and heat power using landfill gas was started on 22 August 2008. It has been stated already that the project has been implemented in accordance with the PDD.

All the equipment has been installed as specified in the PDD, including:
- wells;
- measuring, pumping and regulation (MPR) station;
- flare;
- landfill gas pipeline;
- gas mixing equipment;
- cogeneration plant including electricity and heat interconnections.

During site visit there was observed, that on 23 December 2011 was finalized second step of project “Lapes landfill biogas from II-III field utilization for energy generation”. In this project extension biogas extraction system in Lapes landfill fields II-III, booster station and CHP plants with capacities 1,6MWe and 1,57 MWth were installed. This project extension/change was not described in the Monitoring report, therefore CAR1 was issued:

CAR1: Please describe JI project change in relation with implementation of the project “Lapes landfill biogas from II-III field utilization for energy generation” accordingly to the requirements of PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01): „The project participants shall prepare a detailed description of all changes that have occurred since the determination was deemed final and provide justification for these changes.“

Ekoresursai, UAB has decided to shorten the end of the 3rd monitoring period from 31/12/2011 to 22/12/2011 and to provide detailed description and revised monitoring plan for next verification. This decision was found acceptable to close CAR1, however evaluation that the conditions defined by paragraph 33 of the JI guidelines are still met and that the changes do not alter the original determination opinion for the project will be subject for the next verification.

The project has operated without significant shutdowns and failures, flare was used randomly (only 0,01 % of produced LFG amount is flared). During the previous monitoring report significant decrease of the LFG productivity was observed. In order to reach estimated annual CO2 emission reduction of 64233 t and average LFG production of 880 Nm3/h Ekoresursai, UAB has covered landfill, installed new wells and equipped each well with separate suction valve with possibility to control oxygen amount and improve management of the LFG generation process.
These modernisation activities are not considered as project change, because continuous installing of the new wells and measures to prevent penetration of the atmospheric oxygen are common practice in landfill gas generation industry. Despite these additional measures, estimated emission reduction of 64233 t and average LFG production 880 Nm3/h are not achieved and reached 33648 t and 435 Nm3/h respectively.

Horizontal data review end energy balance analysis was carried out by audit team in order to cross check provided monitoring data and calculations results. There was noted that efficiency of the electric power generation was lower (27,3 %) to compare with the previous monitoring periods (30,8 % and 30,9 % respectively). Lower efficiency is reasonable because high natural gas price has forced project owner to reduce consumption of natural gas and gas mixture with lower CH4 amount has

negative impact to the efficiency of electricity generator. See Table 2 for more productivity and efficiency data:

Table 2. Productivity and efficiency data

	07/2008-12/2009	2010	2011
Electricity produced, MW/h	7389	4730	6308
Heat produced, MW/h	6610	4351,2	4743
Energy from natural gas, MW/h	3851	3430	1631
Energy from LFG, MW/h	20068	11924	21487
Energy efficiency total, %	58,5	59,1	47,8
Energy efficiency for electricity generation, %	30,9	30,8	27,3
Methane fraction in LFG, %	53	49	54
Natural gas calorific value, kcal/nm3	8027	8011	8015
Natural gas consumed, nm3	412648	368290	174976
Electric power consumed, MW/h	318	183	312
Methane to CHP, t	1301	773	1393
Flared LFG, m3	257518	2001	371
LFG to CHP, m3	3720634	2382877	3815365
CO2 reductions, t	34380	19317	33648

Monitoring tests on the noise from electricity generation were carried out on 25/09/2008, the noise level near the surrounding living area (44 dBA) was found below the limited level defined on hygienic norm HN 33:2007 (55 dBA).

Hence, it can be confirmed that the project has been implemented and the equipment has been installed as specified in the PDD and according to the national legislation.

15.4 Compliance of the monitoring plan with the monitoring methodology (94-98)

The monitoring occurred in accordance with the monitoring plan included in the PDD version 9 regarding which the determination has been deemed final and is so listed on the UNFCCC JI website:
http://ji.unfccc.int/UserManagement/FileStorage/28AXHPSNLQ615ZRO7FU9YBDIMEG30T

There were reviewed monitoring activities or use of default values on:

Methane fraction in LFG, vol. %;
Amount of LFG to CHP plant, nm^3;
Amount of LFG flared, nm^3;
Flare temperature, ^0C;
Electric power produced, MWh;
Electric power consumed, MWh;
Heat generated, MWh;
Natural gas consumed, nm^3;
Natural gas calorific value, $kcal/nm^3$;
Emission factor for heat generation, tCO2/MWh;
Emission factor for electricity generation, tCO2/MWh;
Emission factor for natural gas.

Data sources used for calculating emission reductions are clearly identified, reliable and transparent.

Default emission factors values (Emission factor for heat generation, Emission factor for natural gas, Emission factor for electric power generation) are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice in the final PDD. There is no requirement to review these emission factors during the crediting period.

The calculation of emission reductions is based in a transparent manner.

15.5 Revision of monitoring plan (99-100)

Not applied, refer 3.3.

15.6 Data management (101)

The implementation of these procedures and initial data documents (financial invoices on electricity supplied and consumed, natural gas consumed, heat supplied, SCADA data on LFG extracted and flared) were verified. The input of these initial data to the Excel spreadsheet was verified, as a result CAR2 was issued:

CAR2: Total amount of electricity produced on January 2011 (Excel spreadsheet Input data_CHP, cell G8) value (337,91 MWh) does not match with value in the invoice (334,91 MWh).
This mistake was corrected in the final monitoring report version 2 and CAR2 was closed.

Excel spreadsheet formulas was reviewed and found in accordance with Monitoring plan.

The function of the monitoring equipment, including its calibration status, is found in order, see Annex A for more details.

The implementation of data collection procedures is in accordance with the monitoring plan.

The function of the monitoring equipment, including its calibration status, is in order.

15.7 Verification regarding programmes of activities (102-110)

Not applicable.

16 VERIFICATION OPINION

Bureau Veritas Certification has performed the 3rd monitoring period verification of the Lapes Landfill Gas Utilization and Energy Generation, which applies the project specific methodology mainly based on ACM0001. The verification was performed on the basis of UNFCCC criteria and the host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) a desk review of the project design, baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and issuance of the final verification report and opinion.

The management of Ekoresursai, UAB is responsible for the preparation of the GHG emission data and the reported GHG emission reductions of the project on the basis set out within the project Monitoring Plan indicated in the final PDD version 9 dated 10/11/2009. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 2 dated 14/04/2012 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. The installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2011 to 22/12/2011

Baseline emissions	:	33619 t CO2 equivalents.
Project emissions	:	518 t CO2 equivalents.
Emission Reductions (Year 2011)	:	33101 t CO2 equivalents.

17 REFERENCES

Category 1 Documents:
Documents provided by EKORESURSAI, UAB that relate directly to the GHG components of the project.

/1/ PDD "Lapes Landfill Gas Utilization and Energy Generation", version 9, dated 10/11/2009
/2/ Second verification report, issued by Bureau Veritas Certification, No. LITHUANIA-VER/0018/2011, dated on 04/03/2011
/3/ Monitoring Report, dated 15/02/2011 (initial version 1)
/4/ Excel calculation tool, last modified 12/03/2012
/5/ Monitoring Report, dated 14/04/2012 (final version 2)
/6/ Excel calculation tool, last modified 15/04/2012
/7/ Letter of Approval from the Investor party, issued by Swedish Energy Agency on 09/08/2010
/8/ Letter of Approval from the Host party, issued by Lithuanian Ministry of Environment on 14/12/2006
/9/ Construction completion certificate No SUA-2773-(15.34), dated 23/12/2011 issued for "Lapes landfill biogas from II-III field utilization for energy generation".

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ Monitoring management and quality assurance system procedures
/2/ Monitoring management and quality assurance system training records
/3/ Daily LFG plant check records, shown on-site
/4/ Generated electric power selling invoices
/5/ Generated heat power selling invoices
/6/ Consumed electric power purchase invoices
/7/ Natural gas purchase invoices
/8/ Metering equipment calibration records and maintenance records
/9/ Noise monitoring test report No 0601352-1, dated 25/09/2008

Persons interviewed:
List of persons interviewed during the verification or persons that contributed with other information that are not included in the documents listed above.

/1/ Mr. Gerardas Žukauskas,director, EKORESURSAI UAB
/2/ Mr. Vaidotas Kairiūkštis, engineer, EKORESURSAI UAB
/3/ Ms. Živilė Markūnaitė, office administrator, EKORESURSAI UAB

APPENDIX A: LAPES LANDFILL GAS UTILIZATION AND ENERGY GENERATION VERIFICATION PROTOCOL

Check list for verification, according to the joint implementation determination and verification manual (version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	A written project approval (Letter of Approval) from the Investor party was provided, issued by Swedish Energy Agency on 09/08/2010. A written project approval (Letter of Approval) from the Host party was provided, issued by Lithuanian Ministry of Environment on 14/12/2006. These Letters of Approval have been submitted for IAE already during the determination process and were found acceptable.	O.K.	O.K.
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	O.K.	O.K.
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The project was finally determined in November 2010: http://ji.unfccc.int/UserManagement/FileStorage/1350OYZI987RHD4USXMKJT2EAB6CGF The project implementation has been checked according to the information provided in the PDD already during the 1st verification.	O.K.	O.K.
93	What is the status of operation of the project during the monitoring period?	During site visit there was observed, that on 23 December 2011 was finalized second step of project “Lapes landfill biogas from II-III field utilization for energy generation”. In this project extension biogas extraction system in Lapes landfill fields II-III, booster station and CHP plants with capacities 1,6MWe and 1,57 MWth were installed. This project extension/change was not described in the Monitoring report, therefore CAR1 was issued:	CAR1	O.K.

<table>
<tr><th>DVM Paragraph</th><th>Check Item</th><th>Initial finding</th><th>Draft Conclusion</th><th>Final Conclusion</th></tr>
<tr><td></td><td></td><td>CAR1: Please describe JI project change in relation with implementation of the project “Lapes landfill biogas from II-III field utilization for energy generation” accordingly to the requirements of PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01): „The project participants shall prepare a detailed description of all changes that have occurred since the determination was deemed final and provide justification for these changes.“</td><td></td><td></td></tr>
<tr><td colspan="5">Compliance with monitoring plan</td></tr>
<tr><td>94</td><td>Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?</td><td>The Excel based calculation tool is developed for monitoring. This calculation tool and data sources used for monitoring were analyzed and compared with the requirements of the monitoring plan. The results of this analysis are described in the table below:
<table>
<tr><th>Requirement</th><th>Results</th></tr>
<tr><td>Continuous direct measurements</td><td></td></tr>
<tr><td>Methane fraction in LFG, vol. %;</td><td>O.K.</td></tr>
<tr><td>Total amount of LFG captured, nm3</td><td>O.K.*</td></tr>
<tr><td>Amount of LFG to CHP plant, nm3</td><td>O.K.*</td></tr>
<tr><td>Amount of LFG flared, nm3</td><td>O.K.*</td></tr>
<tr><td>Flare temperature, ^{0}C</td><td>O.K.</td></tr>
<tr><td>Periodic direct measurements</td><td></td></tr>
<tr><td>Electric power produced, MWh</td><td>O.K.</td></tr>
<tr><td>Electric power consumed, MWh</td><td>O.K.</td></tr>
<tr><td>Heat generated, MWh</td><td>O.K.</td></tr>
<tr><td>Natural gas consumed, nm3</td><td>O.K.</td></tr>
<tr><td>Natural gas calorific value, kcal/nm3</td><td>O.K.</td></tr>
</table>
* Density ratio 0,00068 tCH4/m^{3}CH4 is used for calculations instead of 0,0007168 tCH4/m^{3}CH4 which is defined in the PDD, because the landfill gas meter uses 293.15 K (20 ^{0}C) temperature value to calculate the gas amount in m3 under normal conditions. This issue was clarified during the first verification (CL6).</td><td>O.K.</td><td>O.K.</td></tr>
</table>

<table>
<tr><th>DVM Paragraph</th><th>Check Item</th><th>Initial finding</th><th>Draft Conclusion</th><th>Final Conclusion</th></tr>
<tr><td>95 (a)</td><td>For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?</td><td>Not applicable.</td><td>O.K.</td><td>O.K.</td></tr>
<tr><td>95 (b)</td><td>Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?</td><td>See section 94 above.</td><td>O.K.</td><td>O.K.</td></tr>
<tr><td>95 (c)</td><td>Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?</td><td>All emission factors used are default values and are already defined in the PDD. The calculation tool was reviewed in order to check if these emission factors are used as defined in the PDD. The results of this analysis are described in the table below:
<table><tr><td colspan="3">Default emission factors</td></tr><tr><td></td><td>Value used</td><td>Results</td></tr><tr><td>Emission factor for heat generation</td><td>0,223 tCO2/MWh</td><td>O.K.</td></tr><tr><td>Emission factor for natural gas</td><td>56,1 tCO2/MWh</td><td>O.K.</td></tr><tr><td>Emission factor for electric power generation</td><td>0,611 tCO2/MWh</td><td>O.K.</td></tr></table></td><td>O.K.</td><td>O.K.</td></tr>
<tr><td>95 (d)</td><td>Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?</td><td>Not applicable.</td><td>O.K.</td><td>O.K.</td></tr>
<tr><td colspan="5">Applicable to JI SSC projects only</td></tr>
<tr><td>96</td><td>Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis?
If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring</td><td>Not applicable.</td><td>O.K.</td><td>O.K.</td></tr>
</table>

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	period determined?			
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	Not applicable.	O.K.	O.K.
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	Not applicable.	O.K.	O.K.
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	Not applicable.	O.K.	O.K.
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	Not applicable.	O.K.	O.K.
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	Not applicable.	O.K.	O.K.
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The implementation of these procedures and initial data documents (financial invoices on electricity supplied and consumed, natural gas consumed, heat supplied, SCADA data on LFG extracted and flared) were verified. The input of these initial data to the Excel spreadsheet was verified, as a result CAR2 was issued: CAR2: Total amount of electricity produced on January 2011 (Excel spreadsheet Input data_CHP, cell G8) value (337,91 MWh)	CAR2	O.K.

<table>
<tr><th>DVM Paragraph</th><th>Check Item</th><th>Initial finding</th><th>Draft Conclusion</th><th>Final Conclusion</th></tr>
<tr><td></td><td></td><td>does not match with value in the invoice (334,91 MWh).

Excel spreadsheet formulas was reviewed and found in accordance with Monitoring plan.</td><td></td><td></td></tr>
<tr><td>101 (b)</td><td>Is the function of the monitoring equipment, including its calibration status, in order?</td><td>The results of the monitoring equipment verification are described in the table below:

<table>
<tr><th>Measurement device, No</th><th>Validation/ calibration date</th><th>Validation/ calibration validity date</th></tr>
<tr><td>Amount of LFG to CHP meter: (including flow meter CGR-01 G400 and calculation unit ST2L10P)
No 340127
No LL19348</td><td>2008.02.13
2010.11.09</td><td>2012.02.13
2012.11.09</td></tr>
<tr><td>LFG composition analyser: AWITE
No 443</td><td>2010.12.02
2011.11.30</td><td>2011.12.03
2012.11.31</td></tr>
<tr><td>Amount of LFG flared (including flow meter CGR-01 G400and calculation unit CMK-02)
No 340128
No 09807</td><td>2008.02.14
2010.04.14</td><td>2012.02.14
2012.04.14</td></tr>
<tr><td>Amount of natural gas: (including flow meter G-25 and calculation unit UNIGAZ PTZ)
20401155
11143</td><td>2010.04.29
2010.04.29</td><td>2014.04.29
2012.04.28</td></tr>
<tr><td>Generated and consumed electric power meter EPQS 121.09.04 in Domeikava Consumed electric power</td><td>2007.05.18
2008.11.17</td><td>2015.05.18
2016.11.17</td></tr>
</table>
</td><td>O.K.</td><td>O.K.</td></tr>
</table>

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<table><tr><td>meter LZ M in Lapes No 478436 No 51881</td><td></td><td></td></tr><tr><td>Heat meter: SKM-1M-U1 (including flow detector, calculation unit, temperature detector) No 018768 No 028091 No 943A</td><td>2010.06.17</td><td>2012.06.17</td></tr></table> All measurement equipment was calibrated/validated on time. Special maintenance requirements for gas analyser are fulfilled (half year change of filtering elements, condensate level control, working temperature conditions).		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidence and records are kept according to Procedure B1_Record Keeping. The retention period is defined during the crediting period and two years after (until 31/12/2014).	O.K.	O.K.
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	A monitoring management and quality assurance system has been developed and implemented efficiently, including necessary forms and procedures: Form A1a_Process Data Sheet (week) Form A1b_Process Data Sheet (month) Form A2_Daily Check Form (LFG Plant) Form A3_Daily Check Form (CHP) Form A4_ Monthly QA Check Form Form A5_Calibration Log Sheet Procedure B1_Record Keeping Procedure B2_Data Transfer Procedure B3a_Daily Check for LFG Plant Procedure B3b_Daily Check for CHP Procedure B4_Calibration Records Procedure B5_Monthly QA Check.	O.K.	O.K.

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		This management system is in accordance with the requirements of the monitoring plan section D.3.		
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	Not applicable.	O.K.	O.K.
103	Is the verification based on the monitoring reports of all JPAs to be verified?	Not applicable.	O.K.	O.K.
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	Not applicable.	O.K.	O.K.
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable.	O.K.	O.K.
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable.	O.K.	O.K.
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: − The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA; − The amounts of expected emission reductions of the JPAs being verified;	Not applicable.	O.K.	O.K.

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	Not applicable.	O.K.	O.K.
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	Not applicable.	O.K.	O.K.
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	Not applicable.	O.K.	O.K.
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	Not applicable.	O.K.	O.K.

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR1: Please describe JI project change in relation with implementation of the project "Lapes landfill biogas from II-III field utilization for energy generation" accordingly to the requirements of PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01): „The project participants shall prepare a detailed description of all changes that have occurred since the determination was deemed final and provide justification for these changes."	93	Is decided to shorten the end of the 3rd monitoring period from 31/12/2011 to 22/12/2011 and to provide detailed description and revised monitoring plan for next verification. Revised Excel spreadsheet dated 15/04/2012 and Monitoring report version 2 was provided for verification. Construction completion certificate No SUA-2773-(15.34), dated 23/12/2011 issued for "Lapes landfill biogas from II-III field utilization for energy generation" is provided to prove start date of the project extension.	This decision to shorten monitoring period until the starting date of the project extension (23/12/2011) was found acceptable to close CAR1, however evalutation that the conditions defined by paragraph 33 of the JI guidelines are still met and that the changes do not alter the original determination opinion for the project will be subject for the next verification.
CAR2: Total amount of electricity produced on January 2011 (Excel spreadsheet Input data_CHP, cell G8) value (337,91 MWh) does not match with value in the invoice (334,91 MWh).	101 (a)	Mistake was corrected in the revised Excel spreadsheet dated 15/04/2012 and Monitoring report version 2.	Revision was reviewed and found correct, hence CAR2 is closed.