

# **VERIFICATION REPORT**

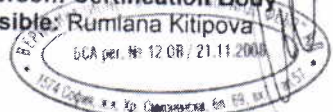
for

Reduction of Greenhouse Gases by Gasification of  
Sofia Municipality

**MONITORING PERIOD: 1 JANUARY 2012 TO 30 NOVEMBER 2012**

REVISION № 01

## **Green and Fair**

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13	16-12-2012	01	16-12-2012	21				
<b>Subject:</b>			Sixth Periodic Verification					
<b>Executing Operational Unit:</b>								
Green and Fair, Bulgaria, 8 Sv.Kliment Ohridski Boulevard, Sofia 1756 p.b.44								
<b>Project Participant (client):</b>								
1) Overgas Inc. AD, 5 Philip Kutev str., Sofia - 1407, Bulgaria (Aggregator of the ERUs) 2) Kingdom of the Netherlands (Buyer country of emission reductions)								
<b>Project Title</b>			Reduction of Greenhouse Gases by Gasification of Sofia Municipality					
<b>Monitoring period:</b>			01-01-2012 to 30-11-2012					
<b>First Monitoring Report (version/date)</b>			Version 01 / 05-12-2012					
<b>Final Monitoring Report (version/date)</b>			Version 02 / 10-12-2012					
<p><b>Summary:</b> Green and Fair has been ordered by Overgas Inc. AD to carry out the Sixth Periodic Verification of the determined JI track 1 project Reduction of Greenhouse Gases by Gasification of Sofia Municipality that is registered by the Bulgarian DFP (see the following link: <a href="http://www3.moev.government.bg/?show=top&amp;cid=357">http://www3.moev.government.bg/?show=top&amp;cid=357</a>). The project consists of internal gas installations for (industrial, public and domestic) users and gas distribution network installed in Sofia Municipality, which is used to switch to natural gas from liquid and solid fuels, and electricity used by the industry, public and administrative sites and households and increasing the energy efficiency of their combustion installations. The management of Overgas Inc. AD is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions. A document review, followed by a site visit was conducted to verify the information submitted by the project participant regarding the present verification period. Based on the assessment carried out, the verifier confirms the following:</p> <ul style="list-style-type: none"> <li>• the project has been implemented and operated in accordance with the description given in the registered PDD (version issued in April 2004).</li> <li>• the project is implemented according to the implementation schedule as described in the registered PDD.</li> <li>• the actual natural gas distribution network was 89% in total of the figure estimated in PDD. It is explained by global financial crisis which is influencing it.</li> <li>• the monitoring plan complies with the applied methodology and the monitoring has been carried out in accordance with the monitoring plan. The verifier can confirm that the GHG emission reduction for the whole monitoring period is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated we confirm the following statement:</li> </ul> <p><b>Reporting period:</b> Assessment and evaluation per 01-01-2012 to 30-11-2012</p> <p><b>Verified baseline emissions, project emissions and emission reductions:</b></p> <table border="1"> <tr> <td><b>Year</b></td><td><b>01-01-2012 to 30-11-2012</b></td></tr> <tr> <td><b>Emission reductions</b></td><td><b>80 914 t CO<sub>2eq</sub></b></td></tr> </table> <p>Based on the information we have seen and evaluated, we confirm that the implementation of the project resulted in total 80,914 t CO<sub>2</sub> of ERUs during the verification period 01-01-2012 to 30-11-2012.</p>					<b>Year</b>	<b>01-01-2012 to 30-11-2012</b>	<b>Emission reductions</b>	<b>80 914 t CO<sub>2eq</sub></b>
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<b>Assessment Team Leader:</b> Dr.eng. Evgeni Sokolovski <b>Assessment Team Members:</b> prof. Ivan Dombalov <b>Trainees:</b> Kalinka Burneva			<b>Veto Person: Certification Body responsible:</b> Rumiana Kitipova 					

## **Abbreviations**

AIE	Accredited Independent Entity
CAR	Corrective Action Request
CER	Certified Emission Reduction
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CO2e	Carbon dioxide equivalent
CR / CL	Clarification Request
DNA	Designated National Authority
EF	Emission Factor
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
JI	Joint Implementation
JISC	JI Supervisory Committee
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NG	Natural Gas
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant



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## 1 INTRODUCTION

The project participant (PP.), Overgas Inc. AD, has commissioned Green and Fair to verify the emission reductions of its JI project Reduction of Greenhouse Gases by Gasification of Sofia Municipality (hereafter called "the project"). The order comprises the Sixth Periodic Verification and is related to emission reductions achieved during 01 January 2012 to 30 November 2012.

According to INSTRUCTION FOR APPROVAL OF PROJECTS GENERATING EMISSION REDUCTION UNITS UNDER TRACK I OF THE JOINT IMPLEMENTATION MECHANISM, issued by the Bulgarian Minister of Environmental and Water with Ordinance No RD 417 from 28.04.2010, Chapter III, Section IV, Art. 16. (2) The Ministry of Environment and Water shall be notified within two weeks following the issuance of a Letter of Approval of the registration number of the project and shall upload the Project Design Document and the Letter of Approval to the United Nations Framework Convention on Climate Change web page in the section for projects approved under Track I procedure of the Joint Implementation mechanism.

According to INSTRUCTION FOR APPROVAL OF PROJECTS GENERATING EMISSION REDUCTION UNITS UNDER TRACK I OF THE JOINT IMPLEMENTATION MECHANISM, issued by the Bulgarian Minister of Environmental and Water with Ordinance No RD 417 from 28.04.2010, Chapter III, Art. 20. (1) An independent verifier for the purpose of this chapter may be any organization under art. 10, paragraph 2 herein as well as organisations accredited by the Executive agency Bulgarian Accreditation Office according to the requirements of the European Union Greenhouse Gas Emission Trading Scheme, provided the scope of the Joint Implementation project concerned coincides with the scope of projects for which the organisation concerned is accredited.

Green and Fair is accredited by the Executive agency Bulgarian Accreditation Office according to the requirements of the European Union Greenhouse Gas Emission Trading Scheme with the certificate No 120B. The scope of accreditation includes the following activities: combustion installations from activities listed in Annex I of the EU ETS Directive, Mineral Oil Refineries as listed in Annex I to the EU ETS Directive, Coke Ovens as listed in Annex I to the EU ETS Directive, Metal Ore Roasting and Sintering Installations as listed in Annex I to the EU ETS Directive, Installations for the Production of Pig Iron and Steel including Continuous Casting as listed in Annex I to the EU ETS Directive, Installations for the Production of Cement Clinker as listed in Annex I to the EU ETS Directive, Installations for the Production of Lime as listed in Annex I to the EU ETS Directive, Installations for the Manufacture of Glass as listed in Annex I to the EU ETS Directive, Installations for the Manufacture of Ceramic Products as listed in Annex I to the EU ETS Directive, Pulp and Paper producing Installations as listed in Annex I to the EU ETS Directive, Combustion installations - emitting less than 25,000 t CO<sub>2</sub> per year and only fossil fuels burnt (no biomass, no waste).

This report summarizes based on a desk-review, an on-site assessment and follow-up interviews and interactions through corrective action and clarification requests, the final results of the verification of the reported emission reductions and the determination whether the project has been implemented in accordance with the PDD and the previous determination, and whether the monitoring occurred in accordance with the monitoring plan included in the PDD and the relevant annexes.

It is based on the JI Determination and Verification Manual (DVM) in its first version, published in December 2009 by the Joint Implementation Supervisory Committee (JISC) of UNFCCC.





Green and Fair has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

This report includes the findings of the sixth periodic verification. Sixth Periodic Verification has been performed as one integrated activity. It consisted of a desk review of the project documents including PDD, monitoring plan, determination report, monitoring report and further documentation. The results of the determination were documented by KPMG in the Determination report dated 25th of May 2004.

## 1.1 Objective

Verification is the periodic independent review by the AIE of the monitored reductions in GHG emissions during defined verification period. The objective of the periodic verification is the review by an AIE of the GHG emission reductions. It includes the verification of the data given in the monitoring report by checking the monitoring records and the emissions reduction calculation.

The verification follows UNFCCC criteria referring to the Kyoto Protocol criteria, the JI rules and modalities, and the subsequent decisions by the JISC, as well as the host country criteria.

## 1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the Accredited Independent Entity. The verification is based on the submitted monitoring report, the determined project design documents including its monitoring plan and determination report, previous verification reports and the applied monitoring methodology. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion. The verification considers both quantitative and qualitative information on emission reductions.

Green and Fair follows a risk-based approach in the verification. This focuses on the identification of significant risks related to the implementation of the monitoring plan and the resultant emission reductions to ensure they are free from material misstatement. Subsequent changes to the monitoring plan, if any, shall be considered in the respective subsequent periodic verifications as applicable. The verification is not meant to provide any consulting towards the Client. However, stated requests for forward actions and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

Green and Fair has, based on the recommendations in the JI Determination and Verification Manual (DVM), the CDM Validation and Verification Manual (CDM-VVM) and the IETA Validation and Verification Manual (IETA-VVM) published by International Emission Trading Association (IETA) employed a risk-based approach in the verification, focusing on the identification of significant risks of the project implementation and the generation of ERUs.

The verified monitoring report for the period 01-01-2012 to 30-11-2012 is intended to be made publicly available together with this verification report on the Ministry of Environment and Water, Executive Environmental Agency's web page in accordance with the Instruction for Approval of Projects

Generating Emission Reduction Units under the “Joint Implementation” Mechanism, as published in May 2010 on the Ministry of Environment and Water’s website.

### 1.3 GHG Project Description

Project title	: Reduction of Greenhouse Gases by Gasification of Sofia Municipality
Jl PDD reference	: j l Project Design Document, April 2004
Determination	: Determination Report dated 25th of May 2004;
Crediting period	: (1 January 2008 - 31 December 2012)
Project location	: Sofia, Bulgaria
Project participants	: Overgas Inc. AD, Kingdom of the Netherlands

The project aims at the reduction of greenhouse gases of Sofia municipality by switching to natural gas from liquid and solid fuels, heat and electricity used by the industry, public and administrative sites and households and increasing the energy efficiency of their combustion installations. According to the Project Design Document (PDD) the project foresees construction of 583 km steel and polyethylene gas distribution network (GDN) and more than 32 000 relevant facilities (combustion installations of the industrial, public and administrative, and residential end users) in Sofia Municipality. As per monitoring report from December 2012, by the 30<sup>th</sup> of November 2012, 520.1 km GDN of steel and polyethylene gas pipelines with the respective facilities were constructed in Sofia Municipality. In 2012 the amount of natural gas delivered to the end users reached 77 305 thousand sm<sup>3</sup>. At the time of the verification the project was fully operational. There is no chance of double counting of ERs generated from Overgas JI projects since the installations where the ERs are generated are clearly defined from the Bulgarian DFP in its register of approved JI projects.

## 2 METHODOLOGY

The verification is as a desk review and field visit including discussions and interviews with selected experts and stakeholders.

### 2.1 Verification Process

The verification process is based on the approach depicted in the Validation and Verification Manual. Standard auditing techniques have been adopted for the verification process. The verification team performs first a desk review, followed by an on-site visit, which results in the formation of a protocol that includes all the findings. The next step involves the evaluation of the findings through direct communication with the PPs and then finally the preparation of the verification report. This verification report and other supporting documents then undergo an internal quality control before submission to the Bulgarian DFP.

The above version of the monitoring report serves as the basis for the assessment presented herewith. Studying the existing documentation belonging to this project, it was obvious that the competence and capability of the audit team performing the verification has to cover at least the following aspects:

- Knowledge of Kyoto Protocol and the Marrakech Accords
- Environmental and Social Impact Assessment
- Quality assurance
- Technical aspects of cogeneration systems

- Monitoring technologies and concepts
- Political, economical and technical conditions in host country
- Knowledge of the Guidelines of the Joint Implementation Supervisory Committee for Joint Implementation under Track 2
- Knowledge of the National Guidelines of the Designated Focal Point of Bulgaria for Joint Implementation under Track 1

## 2.2 Verification Team

The appointment of the verification team takes into account the technical area(s), sectoral scope(s) and relevant host country experience required amongst team members for verifying the ER achieved by the project activity in the relevant monitoring period for this verification. The verification team consisted of the following members:

Name	Qualification	Coverage of scope	Coverage of technical expertise	Host country experience
<b>Evgeni Sokolovski</b>	<b>ATL</b>	✓	✓	✓
Ivan Dombalov	GHG-A	✓	✓	✓
Kalinka Burneva	GHG-Trainee			✓

Dr. Evgeni Sokolovski is a lead verifier for EU ETS at Green and Fair with more than 150 verifications. He is an environmental engineer. He has work experience in the field of industrial environmental technology and protection and also in technical environmental projects. Dr. Sokolovski has attended in a number of JA verifications as local expert for TÜV Rheinland Immissionschutz und Energiesysteme GmbH. Dr. Sokolovski is a lector in the University of Chemical Technology and Metallurgy.

Ivan Dombalov is a lead auditor for EU ETS at Green and Fair, and he is licensed as expert for Environmental Impact Assessment (EIA). He is a chemical engineer, and also a professor in the University of Chemical Technology and Metallurgy. He has work experience in the field of industrial environmental technology and protection and also in technical environmental projects.

Kalinka Burneva is an auditor at Green and Fair, and she is a lead auditor for ISO 9001:2008. She has work experience in quality audits.

## 2.3 Review of Documents

The verification is performed primarily based on the review of the project documentation, including the PDD, determination report and the , GREEN AND FAIR requested the PP to present supporting information and documents and these were reviewed by GREEN AND FAIR. Through the process of the verification, the monitoring report and the supporting documents were evaluated to confirm the actions taken by the PP to the CARs and Cts issued by GREEN AND FAIR.

The audit team has been provided with various documents showing the implementation of the project, such as procedures, manuals, equipment characteristics and further documents. Based on these documents, an on-site assessment for the periodic verification was carried out in December 2012. The documents reviewed by GREEN AND FAIR are listed in Appendix A.



## 2.4 On-site Assessment and follow-up

On 07/12/2012 Green and Fair performed a physical site inspection and on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Overgas Inc. AD were interviewed.

On-site assessment was conducted as defined in the schedule as detailed below.

Date	Place	Subject
07/12/2012	Overgas Inc. AD	<p>Opening meeting</p> <ul style="list-style-type: none"> <li>confirm the implementation and operation of the project,</li> <li>review the data flow for generating, aggregating and reporting the monitoring parameters,</li> <li>confirm the correct implementation of procedures for operations and data collection,</li> <li>cross-check the information provided in the MR documentation with other sources,</li> <li>check the monitoring equipment against the requirements of the PDD and the approved methodology, including calibrations, maintenance, etc.,</li> <li>review the calculations and assumptions used to obtain the GHG data and ER,</li> <li>identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.</li> </ul> <p>Closing meeting</p>

The list of individuals interviewed is as detailed in Appendix B

## 2.5 Quality of Evidence to Determine Emission Reductions

Among several evidence items submitted, the following relevant and reliable evidence material have been used by the audit team during the verification process:

1. Block scheme of the fuels' supply after gasification and project boundaries – annex 1 of the MR;
2. List of approved and introduced documents of the Quality Management System, related to the Joint Implementation projects – annex 2 of the MR;
3. Monthly statements for delivery of natural gas by Bulgargas EAD to Overgas Inc. AD for the period 01.01.2012 - 30.11.2012 – annex 3 of the MR;
4. Certificates of the natural gas delivered by Bulgargas EAD to Overgas Inc. AD for the period 01.01.2012 - 30.11.2012 – annex 4 of the MR;
5. Calibration Certificates for the natural gas meters, pictures of stickers are taken by the verification team.
6. Schedule for the year 2012 for control of volume correctors for the year 2012;
7. Schedule for the year 2012 for control of diaphragm gas meters for the year 2012;
8. Schedule for the year 2012 for control of roots and turbine gas meters for the year 2012;
9. IT system Excel file "Spravka\_Sofia\_2012.xls";
10. IT system Excel file „NG\_Sofia\_input\_2012.xls“;
11. Excel file „Annex5\_Sofia\_v1\_05\_12\_2012\_protected.xls“;
12. Excel file „Annex5\_Sofia\_v1\_05\_12\_2012\_unprotected.xls“;
13. One protocol for implementation in exploitation of the gas pipe in 2012;
14. One protocol for accident and gas leakage;
15. Excel file „Annex5\_Sofia\_v2\_10\_12\_2012\_protected.xls“;

16. Excel file „Annex5\_Sofia\_v2\_10\_12\_2012\_unprotected.xls“;

Sufficient evidence covering the full verification period in the required frequency is available to validate the figures stated in the final MR. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the audit team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

## **2.6 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 needed to be clarified for Green and Fair positive conclusion on the GHG emission reduction calculation.

Corrective Action Requests (CAR) are issued, where:

- i) there is a clear deviation concerning the implementation of the project as defined by the PDD;
- ii) requirements set by the MP or qualifications in a verification opinion have not been met;
- iii) or there is a risk that the project would not be able to deliver (high quality) ERUs.

Forward Action Requests (FAR) are issued, where:

- iv) if the actual status requires a special focus on this item for the next consecutive verification, or
- v) an adjustment of the MP is recommended.
- vi) The verification team may also use the term Clarification Request (CL), which would be where: additional information is needed for the full clarification of an issue.

## **2.7 Internal Quality Control**

As a final step of verification, the final documentation including the verification report and annexes have to undergo an internal quality control by the Green and Fair. The verification report has to be finally approved by the Head of the verification body. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the Bulgarian DFP along with the relevant documents.

## **3 VERIFICATION RESULTS**

In the following sections, the results of the verification are stated. The verification results related to the project performance as documented and described in the final PDD and Monitoring Report (10-12-2012, version 2). The verification findings for each verification subject are presented below:

### **3.1 FARs from Previous Verification**

This is Sixth Periodic Verification. The verification team confirms that FAR#1 presented in the verification report № 600500939 Version 02/07.11.2012 from TÜV SÜD Industrie Service GmbH, haven't been correctly resolved by the PPs.

### **3.2 Project Implementation in accordance with the registered Project Design Document**

The project activity as described in the PDD dated April 2004 was determined by KPMG.

The project's implementation is behind the schedule described in the registered PDD:

- 89% of GDN planned to install until 2012 was laid until 30.11.2012
- Only 16 792 end users have been connected to GDN. It was planned to connect 32 163 clients until 2012.

The verifier confirms, through the visual inspection that all physical features of the proposed JI project activity including data collecting systems and storage have been implemented in accordance with the registered PDD. The project activity is completely operational and the same has been confirmed on-site. None of this affects the additionality, scale or applicability of the project. It can be stated, that the way the production data is obtained is consistent with the way the historical data had been determined. Main measurement equipments are in place and calibrated. The existing metering systems have been identified and checked. The equipment is calibrated periodically as proven during the on-site visit. The project boundaries have not been changed.

### 3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The monitoring plan is in accordance with the approved project specific methodology, applied by the proposed JI project activity. Neither a revision nor a deviation to the monitoring plan has been requested to the JISC.

### 3.4 Compliance of the Monitoring with the Monitoring Plan

The monitoring has been carried out in accordance with the monitoring plan contained in the PDD. All parameters were monitored and determined as per the Monitoring Plan. The parameters as included to the registered monitoring plan are considered to be complete.

The verification of the parameters required by the monitoring plan is provided as follows:

<b>Data / Parameter:</b>	Utilization of natural gas
<b>Data unit:</b>	1000 sm <sup>3</sup>
<b>Description:</b>	The summarized consumption of natural gas read by the gas meters of end users
<b>Source of data used:</b>	The gas meter readings of the gas on-sites are performed by trained employees of GDC (inspectors) in presence of the client (only for institutional and industrial clients) as is described in the instruction. The meter readings are recorded in a protocol per region for all users per month. The equipment used has been calibrated according to the requirements of the approved monitoring plan.
<b>Means of verification/Comments:</b>	The total consumption of each sector has been verified based on the IT system data (raw data) available on-site and no discrepancies were found.
<b>Cross-check</b>	The sample readings of large NG users were cross-checked from monthly consumption protocols and from IT system file "Spravka_Sofia_2012_End.xls". The consumption of residential users was crosschecked from samples of manual reading protocols No discrepancies were identified.

<b>Data / Parameter:</b>	Natural gas entered into the GDN
<b>Data unit:</b>	1000 sm <sup>3</sup>
<b>Description:</b>	Monthly volumes of natural gas entered into the GDN
<b>Source of data used:</b>	The meter readings are recorded at 5 entry points by metering devices which are owned by the gas supplier Bulgargas. The readings are taken down at the first day of every month at 8:00 AM. The monthly act for total amount of gas delivery is signed by Bulgargas and GDC and received by Overgas. There are additional 2 entry points to supply four local district heating plants. This gas amount is measured at the entry to the plant by meters owned by GDC. The equipment used has been calibrated according to the requirements of the approved monitoring plan.
<b>Means of verification/Comments:</b>	The data was verified with monthly acts of gas delivery
<b>Cross-check</b>	GDC has installed control meters to connection point which readings were used to cross-check the data on-site. No significant discrepancies were identified.

<b>Data / Parameter:</b>	LHVactual-monthly
<b>Data unit:</b>	kcal/m <sup>3</sup>
<b>Description:</b>	Monthly values of average low heating value of the natural gas entered into GDN
<b>Source of data used:</b>	Natural Gas certificate issued by "Bulgartransgas EAD". The data provided is an average value of several analysis made during the month. The equipment used has been calibrated according to the requirements of the approved monitoring plan. Bulgargas Holding's laboratory is using certified equipment.
<b>Means of verification/Comments:</b>	The data was verified with monthly certificates of gas delivery
<b>Cross-check</b>	The values were crosschecked with monthly reports of gas entering Bulgaria and issued by Bulgargas.

### 3.5 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

All data has been available and all the parameters have been monitored in accordance with the monitoring plan. The reported data have been cross-checked against other sources available.

The verifier confirms that the methods and formulae used to obtained the baseline, project and leakage emissions are appropriate. The same has been done in accordance with the methods and formulae described in the registered monitoring plan and applicable methodology. The verifier confirms that the monitoring report includes all parameters and the monitored data at the intervals required by the methodology and PDD.

The verifier confirms that all the emission factors and default values have been correctly justified. All the emission factors and default values are explicitly mentioned in the monitoring report.

## 4 SIXTH PERIODIC VERIFICATION FINDINGS

The verifier can confirm that the published MR and related documents are complete and verifiable in accordance with the JI requirements. All the findings raised by the verification team, the responses by the PPs and the conclusion from the team are presented in Annex C. The means of verification and resulting changes in the MR or related documents are identified in the following table:



Action requested to project participants (incl. CAR, CL or FAR)	<i>Summary of project owner response</i>
<b>CL 01</b> Please provide the data from IT system - Excel file "Spravka_Sofia_2012.xls" concerning all data for the end users which is used in monitoring report version 01/05.12.2012 for the period 01.01.2012 – 30.11.2012 for the Overgas Inc. AD - Sofia	The requested information has been submitted to the verification team.
<b>CL 02</b> Please provide Schedule for the year 2012 for control of diaphragm gas meters for the year 2012;	The requested information has been submitted to the verification team.
<b>CL 03</b> Please provide one protocol for implementation in exploitation of the gas pipe in 2012;	The requested information has been submitted to the verification team.
<b>CL 04</b> Please provide one protocol for accident and gas leakage;	The requested information has been submitted to the verification team.
<b>CAR 01</b> Please correct the data in Excel file „Annex5_Sofia_v1_05_12_2012_protected.xls”, sheet "ERU"( M10, M11 и M12)	The monitoring report version 02/10.12.2012 has been submitted to the verification team, with new version of the Annex 5 and has been checked.



## 5 VERIFICATION STATEMENT

Green and Fair has performed the Sixth periodic verification of the emission reductions the JI project Reduction of Greenhouse Gases by Gasification of Sofia Municipality. The order comprises the Sixth periodic verification and is related to emission reductions achieved during 01 January 2012 to 30 November 2012. The verification is based on the currently valid documentation of the UN Framework Convention on Climate Change (UNFCCC).

The project consists of internal gas installations for (industrial, public and domestic) users and gas distribution network installed in Sofia Municipality, which is used to switch to natural gas from liquid and solid fuels, and electricity used by the industry, public and administrative sites and households and increasing the energy efficiency of their combustion installations. The management of Overgas Inc. AD is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions. A document review, followed by a site visit was conducted to verify the information submitted by the project participant regarding the present verification period. Based on the assessment carried out, the verifier confirms the following:

- the project has been implemented and operated in accordance with the description given in the registered PDD (version issued in April 2004).
- the project is implemented according to the implementation schedule as described in the registered PDD.
- the actual natural gas distribution network was 89% in total of the figure estimated in PDD. It is explained by global financial crisis which is influencing it.
- the monitoring plan complies with the applied methodology and the monitoring has been carried out in accordance with the monitoring plan.

The verifier can confirm that the GHG emission reduction for the whole monitoring period is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated we confirm the following statement:

**Reporting period:** Assessment and evaluation per 01-01-2012 to 30-11-2012

**Verified emission reductions:**

Year	01-01-2012 to 30-11-2012
Emission reductions	80 914 t CO <sub>2eq</sub>

Based on the information we have seen and evaluated, we confirm that the implementation of the project resulted in total 80,914 t CO<sub>2</sub> of ERUs during the verification period 01-01-2012 to 30-11-2012.

The project has continuously generated emission reductions as JI project in the Sixth Periodic Verification of the first commitment period of the Kyoto Protocol from 2008 to 2012 in accordance with the National Guidelines of the Bulgarian Designated Focal Point for generation of Emission Reduction Units under Track I of the "Joint Implementation" mechanism under Article 6 of the Kyoto Protocol.

Sofia, 16.12.2012

Evgeni Sokolovski

Lead verifier

Rumiana Kitirova

Chief Executive Officer

Green and Fair



## 6 APPENDIXES

### Appendix A: List of documents reviewed

#### Category A documents (documents from the PP)

1. Letter of Approval by the Bulgarian Ministry for Environment and Water
2. Monitoring and Verification reports for the years 2008, 2009, 2010 and 2011.
3. Monitoring report version 02/05.12.2012 for the GHGs emissions reductions for the period 01.01.2012 – 30.11.2012.
4. Block scheme of the fuels' supply after gasification and project boundaries – annex 1 of the MR;
5. List of approved and introduced documents of the Quality Management System, related to the Joint Implementation projects – annex 2 of the MR;
6. Monthly statements for delivery of natural gas by Bulgargas EAD to Overgas Inc. AD for the period 01.01.2012 - 30.11.2012 – annex 3 of the MR;
7. Certificates of the natural gas delivered by Bulgargas EAD to Overgas Inc. AD for the period 01.01.2012 - 30.11.2012 – annex 4 of the MR;
8. Calibration Certificates for the natural gas meters, pictures of stickers are taken by the verification team.
9. Schedule for the year 2012 for control of volume correctors for the year 2012;
10. Schedule for the year 2012 for control of diaphragm gas meters for the year 2012;
11. Schedule for the year 2012 for control of roots and turbine gas meters for the year 2012;
12. IT system Excel file "Spravka\_Sofia\_2012.xls";
13. IT system Excel file „NG\_Sofia\_input\_2012.xls“;
14. Excel file „Annex5\_Sofia\_v1\_05\_12\_2012\_protected.xls“;
15. Excel file „Annex5\_Sofia\_v1\_05\_12\_2012\_unprotected.xls“;
16. One protocol for implementation in exploitation of the gas pipe in 2012;
17. One protocol for accident and gas leakage;
18. Excel file „Annex5\_Sofia\_v2\_10\_12\_2012\_protected.xls“;
19. Excel file „Annex5\_Sofia\_v2\_10\_12\_2012\_unprotected.xls“;

#### Category B documents (other documents referenced)

20. PDD Reduction of Greenhouse Gases by Gasification of Sofia Municipality. April 2004
21. Determination report KPMG dated 26th of May 2004.
22. Guidelines for users of the Joint Implementation Project Design Form
23. Guidance on Criteria for Baseline Setting and Monitoring

**Appendix B: List of persons interviewed**

Name	Company	Position
Mr.Petar Fildishev	Overgas Inc. AD	Manager TPG
Mr.Ivan Mastikov	Overgas Inc. AD	Manager "Joint Implementation Projects Management"



## Appendix C: Green and Fair Verification Protocol

Table 1. Check list for verification

DVM Paragraph	Check item	Initial finding	Action requested to project participants (incl. CAR, CL or FAR)	Review of project participants' action	Conclusion
<b>Project approvals by Parties involved</b>					
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?	<b>Yes, Bulgaria and the Kingdom of the Netherlands have issued LoAs based on the MOU between both countries.</b>	N/A	N/A	OK
91	Are all the written project approvals by Parties involved unconditional?	<b>Yes, they are</b>	N/A	N/A	OK
<b>Project implementation</b>					
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?	<b>Yes The website of JISC is in preparation also for display of JI projects under Track 1, which is only under the responsibility of the host country's DFP.</b>	<b>See Verification Report, chapter 3.2</b>	<b>See Verification Report, chapter 3.2</b>	OK
93	What is the status of operation of the project during the monitoring period?	<b>The project operates since 2004.</b>	N/A	N/A	OK
<b>Compliance with monitoring plan</b>					
94	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?	<b>The monitoring occurred in accordance with the monitoring plan.</b>	<b>See Verification Report, chapter 3.4</b>	<b>See Verification Report, chapter 3.4</b>	OK

95 (a)	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?	When calculating the emission reductions all key factors have been considered.	See Verification Report, chapter 3	See Verification Report, chapter 3	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	The input data have been cross-checked with the raw data during the on-site assessment. The applied data sources are reliable and transparent.	See Verification Report, chapter 3	See Verification Report, chapter 3	OK
95 (c)	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?	The applied grid emission factors and other emission factors are from credible sources.	See Verification Report, chapter 3 The most conservative grid emission factors have been applied.	See Verification Report, chapter 3 The most conservative grid emission factors have been applied.	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals calculated based on conservative assumptions and the most plausible scenarios in a transparent manner?	The calculations are based on the monitored data, recorded from calibrated monitoring devices ex-post and from conservative parameters and data determined ex-ante.	See Verification Report, chapter 3	See Verification Report, chapter 3	OK
<b>Revision of monitoring plan</b>					
	<i>Applicable only if monitoring plan is revised by project participants</i>				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	N/A	N/A	N/A	N/A
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information	N/A	N/A	N/A	N/A



	collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?				
<b>Data management</b>					
<b>101 (a)</b>	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	<b>Specific data collection procedures, quality control and quality assurance procedures have been defined by Overgas Inc. AD</b>	<b>See Verification Report, chapter 3</b>	<b>See Verification Report, chapter 3</b>	<b>OK</b>
<b>101 (b)</b>	Is the function of the monitoring equipment, including its calibration status, is in order?	<b>The verification team has checked all monitoring devices and associated calibration protocols.</b>	<b>See Verification Report, chapter 3</b>	<b>See Verification Report, chapter 3</b>	<b>OK</b>
<b>101 (c)</b>	Are the evidence and records used for the monitoring maintained in a traceable manner?	<b>Yes, the evidence and records used for the monitoring are maintained in a transparent manner and could be re-traced by the verification team.</b>	<b>See Verification Report, chapter 3</b>	<b>See Verification Report, chapter 3</b>	<b>OK</b>
<b>101 (d)</b>	Is the data collection and management system for the project in accordance with the monitoring plan?	<b>The data collection and the management system is in compliance with the monitoring plan and with the previous periodic verification.</b>	<b>See Verification Report, chapter 3</b>	<b>See Verification Report, chapter 3</b>	<b>OK</b>

**Table 2: List of CARs, CLs and FARs from desk review and on-site assessment**

<b>Table 2a: Initial List of Corrective Action Requests (CARs) for Overgas Inc. AD</b>			
<i>Corrective Action Requests</i>	<i>Reference</i>	<i>Summary of project owner response</i>	<i>Determination/verification team conclusion</i>
<b>CAR 01</b> Please correct the data in Excel file „Annex5_Sofia_v1_05_12_2012_protected.xls”, sheet “ERU“( M10, M11 и M12)		The monitoring report version 02/10.12.2012 has been submitted to the verification team, with new version of the Annex 5 and has been checked.	CAR 01 is resolved and can be closed. OK

<b>Table 2b: Initial List of Clarification Requests (CLs) for Overgas Inc. AD</b>			
<i>Clarification Request (CL)</i>	<i>Reference</i>	<i>Summary of project owner response</i>	<i>Determination/verification team conclusion</i>
<b>CL 01</b> Please provide the data from IT system - Excel file “Spravka_Sofia_2012.xls” concerning all data for the end users which is used in monitoring report version 01/05.12.2012 for the period 01.01.2012 – 30.11.2012 for the Overgas Inc. AD - Sofia		The requested information has been submitted to the verification team.	CL 01 is resolved and can be closed. OK
<b>CL 02</b> Please provide Schedule for the year 2012 for control of diaphragm gas meters for the year 2012;		The requested information has been submitted to the verification team.	CL 02 is resolved and can be closed. OK
<b>CL 03</b> Please provide one protocol for implementation in exploitation of the gas pipe in 2012;		The requested information has been submitted to the verification team.	CL 03 is resolved and can be closed. OK

<b>CL 04</b> Please provide one protocol for accident and gas leakage;		The requested information has been submitted to the verification team.	CL 04 is resolved and can be closed. OK
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<b>Table 2c: Initial List of Forward Action Requests (FARs) for Overgas Inc. AD</b>			
<b>Draft FARs provided by validation team</b>	<b>Reference</b>	<b>Summary of project owner response</b>	<b><i>Determination/verification team conclusion</i></b>
NO			