



# VERIFICATION REPORT

## SVILOSA AD

### VERIFICATION OF THE

# “BULGARIA:SVILOSA BIOMASS PROJECT”

MONITORING PERIOD:  
01 JANUARY 2012 TO 31 AUGUST 2012

BUREAU VERITAS CERTIFICATION

REPORT NO. BULGARIA-VER/0006/2012

REVISION No. 02



## VERIFICATION REPORT

Date of first issue: 13/11/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: World Bank	Client ref.: Mr. Yevgen Yesyrkenov, Senior Carbon Finance Specialist

## Summary:

Bureau Veritas Certification has made the 7th periodic verification of the JI Track I Project "Bulgaria: Svilosa Biomass Project", Svishtov, Bulgaria, JI Registration Reference Number ITL BG10000163, project of Svilosa AD located near city Svishtov, Bulgaria applying the project specific methodology on the basis of UNFCCC criteria for the JI, as well as 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 defined verification period, and consisted of the following three phases: i) desk review of the project design and the 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 the 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 to generates GHG emission reductions. The GHG emission reductions are calculated accurately and without material errors, omissions or misstatements, and is total 111,586 tons of CO<sub>2</sub>eq for the monitoring period 01/01/2012-31/08/2012.

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.: BULGARIA-VER/0006/2012	Subject Group: JI
Project title: "Bulgaria: Svilosa Biomass Project", Svilosa Co, Svishtov, Bulgaria	
Work carried out by: Tomas Paulaitis: Lead Verifier Andrey Yordanov: Verifier Viktor Milkov: Technical specialist	
Work reviewed by: Ivan Sokolov: Internal Reviewer Svitlana Gariyenchyk: Lead Verifier Vladimir Lukin: Technical Specialist	
Work approved by: Witold Dzigan – Operational manager	
Date of this revision: 13/11/2012	Rev. No.: 02
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## 1 INTRODUCTION

The World Bank has commissioned Bureau Veritas Certification to verify the emission reductions of its JI project “Svilosa, Biomass Boiler” Svilosa Co, Svishtov, Bulgaria” (hereafter called “the project”) located near city Svishtov, Bulgaria.

This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The order includes the seventh periodic verification of the project for the period 01/01/2012-31/08/2012.

### 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 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 and 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, corrective and/or forward 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

Andrey Yordanov  
Bureau Veritas Certification Sofia Team Member, GHG Auditor.

Viktor Milkov  
Bureau Veritas Certification Sofia Team Member, GHG Auditor.

This verification report was reviewed by:

Ivan Sokolov  
Bureau Veritas Certification Internal Reviewer

Svitlana Gariyenchyk  
Bureau Veritas Certification Climate Change Lead Verifier

Vladimir Lukin  
Bureau Veritas Certification Technical Specialist

## 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 the version 01 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, criteria (requirements), means of verification and the 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 verification protocol is enclosed in Appendix A to this report.

## 2.1 Review of Documents

The Monitoring Report (MR) dated 21/09/2012, rev.1, submitted by Svilosa AD and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), previous verification reports, 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 Monitoring Report rev.4, dated 29/11/2012 and project as described in the determined PDD dated 04/10/2002.

## 2.2 Follow-up Interviews

On 28/09/2012 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 Svilosa AD were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
Svilosa AD	Organizational structure, responsibilities and authorities Project implementation and technology Training of personnel Quality management procedures Metering equipment control Monitoring record keeping system Environmental requirements Monitoring plan Monitoring report

## 2.3 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 Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

If the Verification Team, in 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 Verification Team 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.

The Verification Team will make an objective assessment as to whether the actions taken by the project participants, if any, satisfactorily resolve the issues raised, if any, and should conclude its findings of the verification.

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

### **3 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 8 Clarification Requests and 2 Corrective Action Request.

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

All CARs and CLs have been duly addressed and answered by the PP and after the assessment by the audit team have been closed respectively.

Necessary corrections have been made by the PP in the MR.

#### **3.1 Remaining issues and FARs from previous verifications**

The last verification has resulted in 7 FARs. They were respectively attended in the present Monitoring Report, rev. 1 & 2 and considered closed by the audit team prior the preparation of this Verification Report.



FAR 1: Please provide specific dates of the beginning and the end of the crediting period in the next Monitoring Report.

PP answer: The required information has been amended in the Monitoring Report, dated September 21st, 2012, rev.1.

AIE conclusion: The information added is considered sufficient.

FAR 1 is therefore considered closed.

FAR 2: Please describe in the MR the SCADA system as part of the data management system. Provide information about the authorized certification, protection from unauthorized access and service procedures.

PP answer: In the MR, rev.2 dated October 5th, 2012, section 7.1. Management and monitoring system there is a description of the SCADA system as part of the Management and monitoring system. The system is developed by Jarnforsen – Sweden. Changes related to requirements are performed by ECOSIM, a company based in Pleven. In case problems related to the SCADA system functioning occur, Svilosa is in contact with ECOSIM, despite the fact there is no contract for regular maintenance.

AIE conclusion: The information added is considered sufficient.

FAR 2 is therefore considered closed.

FAR 3: Please provide confirmation in the next MR that all data and information from the project will be kept for 2 years after the date of the last transfer of ERUs from the project.

PP answer: The required confirmation has been amended in the Monitoring Report, dated October 5th, 2012, rev.2. section 7.1. Management and monitoring system.

In compliance to Procedure P\_03\_Collection and storage of data, para. 2.2.4 Information loss prevention, which is a part of the MMS the term for document storage after the final transfer of emission reductions from the project is stated to 5 years.

AIE conclusion: The information added in the Monitoring Report, ver.2, dated 17/10/2012, is considered sufficient.

FAR 3 is therefore considered closed.

FAR 4: The PP is requested to provide in the next MR information about data source for each monitoring parameter subject to single, monthly or annual entry.

PP answer: The required information has been amended in the Monitoring Report, dated September 21st, 2012, rev.1.

AIE conclusion: The information added is considered sufficient.

FAR 4 is therefore considered closed.

FAR 5: Please describe clearly in the next Monitoring Report in what way the persons in charge of the process data management are familiar with the procedures from the Management and monitoring system.

PP answer: The required information has been amended in the Annual Monitoring Report, dated September, 21st, 2012, rev.1.



AIE conclusion: The information added is considered sufficient.  
FAR 5 is therefore considered closed.

FAR 6: The PP is requested to provide in the next MR the amount of ERs as per PDD and per MR split by years of the reported monitoring period. PP is requested as well to provide justification for the difference in the ERs projected and achieved in the reported monitoring period.

PP answer: The required information has been amended in the Monitoring Report, dated October 5th, 2012, rev.2. section 6.3.2. CH4 Emissions reductions due to process wood burning. Please see the explanations below Table 9 Planned and actual emission reductions on page 15.

AIE conclusion: The information added is considered sufficient.  
FAR 6 is therefore considered closed.

FAR 7: Please provide information on the collection and archiving of information on the environmental impacts of the project. Please provide reference to the relevant Bulgarian regulations.

PP answer: Archiving of the monitoring data is implemented in accordance to Procedure P4-I1-O Monitoring of the treatment equipment and containers for the wastes and Procedure P12 Monitoring and measurement of the processes of the Environmental Management System in accordance to ISO 14001:2004.

Svilosa has sent a letter to the MoEW and asked for any changes made to the regulations concerning carrying out of the landfills in compliance to the legislation. No answer was submitted by the MoEW. There is no information published on the MoEW web site as well. Currently in Bulgaria there are no landfills for wood wastes with equipment for methane emissions elimination.

AIE conclusion: The information added is considered sufficient.  
FAR 7 is therefore considered closed.

### **3.2 Project approval by Parties involved (90-91)**

Written project approval has been issued by the DFP (Ministry of Environment and Water of Bulgaria) of that Party on 25/02/2003.

The abovementioned written approval is unconditional.

A Declaration of Approval issued by the State of Netherlands, ref. No 2009JI06, dated 15 Oct. 2009. The letter is addressed to "Svilosa Biomass Project" and is unconditional.

### **3.3 Project implementation (92-93)**

The project involves a biomass boiler for generation of process heat for the Pulp Mill. The installation consists of convection part and a standard PKM-12 boiler acting as a common unit.



The boiler installation possesses an Operational permit #BT-PK-0511, dated January, 7<sup>th</sup>, 2004 issued by the Regional Department Inspection for State Technical Supervision – city of Veliko Tarnovo.

Being of a very old vintage the PDD does not specify in details the equipment used in the biomass installation. The onsite visit confirmed that it is a standard biomass boiler configuration including:

Standard horizontal steam boiler

Biomass pre-combustion chamber

Biomass feeding installation

Control system, including SCADA system

Steam pipe-lines

The main characteristics of the boiler at present are as follows:

- Nominal thermal capacity – 19,732 MW;
- Nominal steam generation – 28 t/h saturated steam;
- Operating pressure – 1,3 MPa;
- Feed water inlet temperature – 60 °C;
- Temperature of the flue gases at the outlet of convectional section – 185 °C ± 30 °C;
- Fuel type – wood barks;
- Fuel calorific value – 2 800 kcal/kg (W= 30 – 40%)
- Nominal fuel flow – 7 245 kg/h;
- Biomass boiler efficiency – 85%.

The PDD envisaged construction of boiler and auxiliary parts for wood barks incineration with thermal capacity of 14 MW and heat generation of 18 t/h saturated steam. However, the PDD permits the maximum size of the boiler to be with capacity of up to 24 MW.

Due to wearing out of some of the main parts of the boiler at the end of 2011 a scheduled overhaul has been performed. The old boiler was replaced with the new, more efficient one (type Boiler – КПТ 28 000 /13, manufacturer number 19, registration number БТПК – 0543/30.01.2012). The boiler had been produced in 2011 by Promishlena Energetika AD, based in Varna, Bulgaria. It has a Certificate of initial technical inspection issued on 15/03/2012.

The new boiler has been put in operation on 22/02/2012 after 72 hour tests.

The present report assessed the monitoring period from 01/01/2012 to 31/08/2012. The emission reductions generated in that period are 111,586 tCO<sub>2e</sub>.

Explanation and justification of the project change has been provided by the PP in Annex 1 of the Monitoring Report, rev. 2.



The information provided in Annex 1 is in compliance with the PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01) and is considered sufficient.

The audit team confirms that the conditions defined by paragraph 33 of the JI guidelines are still met for the project.

The audit team also confirms that:

- (a) The physical location of the project has not changed;
- (b) The emission sources have not changed;
- (c) Baseline scenario has not changed;
- (d) The changes are consistent with the JI specific approach upon which the determination was prepared for the project.

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.

### **3.4 Compliance of the monitoring plan with the monitoring methodology (94-98)**

The monitoring occurred in accordance with the monitoring plan included in the PDD dated 04/10/2002 regarding which the determination has been deemed final and is so listed on the UNFCCC JI website:

<http://ji.unfccc.int/JIITLProject/DB/ASKDPSK8ARA1APZGEW4VUXH080HYP2/details>

Data sources used for calculating emission reductions such as quantity of thermal energy generated, quantity of pulp produced and blended wood consumption, are clearly identified, reliable and transparent.

The data sources referred above were checked by the auditing team during the site visit as follows:

- computer assisted log with hard copy printout of the shift records of the heat output of the biomass boiler in the Biomass Boiler operation room, with daily and monthly totals and backup of data at monthly intervals;
- official plant pulp production records used for monthly and yearly inputs;
- official plant records of wood supplied to the plant;
- official protocol for CHP data issued by the management of the power plant;
- Commercial invoices for electric energy consumed from the grid.

The calculation of emission reductions is based on transparent approaches.

### **3.5 Revision of monitoring plan (99-100)**

Not applicable.



### 3.6 Data management (101)

The data and their sources (monthly wood pulp production reports, annual CHP data, annual blended wood consumption reports, steam generation reports) are clearly identified, reliable and transparent. The received original monthly and yearly reports are stored by the person responsible for the project, Mrs. Diana Ganeva, and were provided for the verification. All monthly and yearly consumption reports were audited (100 % sample) and compared with the data presented in the Monitoring report and no mistakes or misstatements have been found.

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.

The calibration equipment is sealed and has functioned without any failures during the monitoring period. During the monitoring period a heat energy meter #276/2003 has been replaced for which a protocol for replacement dated 16/11/2010 was presented to the auditing team.

The calibration status of the measuring equipment was verified and found valid. The calibration status was valid during all the monitoring period. The calibration interval is according to the national legislation:

- Flow meters – 2 years
- Heat energy meters – 2 years
- Industrial scales – 1 year
- The following evidences of calibration were provided to the auditing team during the site visit:
  - Calibration protocol for whirl flow-meter PROWIRL EDZ 420, # 94036288-installed on 20/01/2012, initial calibration check 03/2012-valid until 31/12/2013.
  - Protocol for replacement of low-meter PROWIRL EDZ 420, # 94036288 with whirl flow-meter PROWIRL 72F, # F406B402000, dated 22/05/2012.
  - Factory calibration protocol # 1000183173 for whirl flow-meter PROWIRL 72F, # F406B402000;
  - Protocols for calibration of 60t industrial scale type Mark Bentz # 021206 – dated 10.04.2008-valid until 04.2009; 09.04.2009-valid until 04.2010; 15.04.2010-valid until 04.2011; 28.04.2011-valid until 04.2012; 04/06/2012 – valid until 06/2013
  - Protocols for calibration of 300 kg. Industrial scale type Metler Toledo # 4280193 – dated 21.05.2008-valid until 05.2009; 27.05.2009-valid until 05.2010; 14.05.2010-valid until 05.2011; 18.05.2011- valid until 05.2012; 22/05/2012 – valid until 05/2013

The coal fired “Sviloza Thermal Power Plant” (CHP) is part of the project boundary but is property of a third party – “Sviloza TPP”, different from



“Svilosa” AD. A contract # 26-00-661/HT/080304 was signed between “Svilosa” AD and the Thermal Power Plant for providing all relevant information required from the Monitoring Plan of the project. The parameters and data required are presented in the MR – Section 7.2.3, Table 12 and in the Workbook of the project.

“Sviloza TPP” is the only third party, involved with the project.

The evidence and records used for the monitoring are maintained in a traceable manner.

The data collection and management system for the project is in accordance with the monitoring plan.

### **3.7 Verification regarding programmes of activities**

Not applicable.



#### 4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 7<sup>th</sup> periodic verification of the JI Track I Project “Biomass Boiler” Svilosa Co, Svishtov, Bulgaria” project in Bulgaria, which applies project specific methodology. The verification was performed on the basis of UNFCCC criteria and 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) desk review of the project design and the 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 management of Svilosa AD is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD dated 04/10/2002. 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 rev. 4 dated 29/11/2012 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. 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 emissions 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 01/01/2012 to 31/08/2012

Baseline emissions (2012): 111,586 tCO<sub>2e</sub>

Project emissions (2012): 0 tCO<sub>2e</sub>

Emission Reductions (2012) : 111,586 tCO<sub>2e</sub>

Total Emission Reductions: 111,586 tCO<sub>2e</sub>



The values are taken from the project workbook and ER calculation tables, filenames: SVI\_Workbook\_2012\_rev4.xls and BB\_Calculation\_29112012.xlsx, which are integral part of the Monitoring plan and Monitoring report presented.

## 5 REFERENCES

### Category 1 Documents:

Documents provided by Svilosa AD that relate directly to the GHG components of the project.

- /1/ PDD dated 04/10/2002
- /2/ Determination report, No. 67962 dated 04/10/2002, issued by TUEV Sueddeutschland Bau und Betrieb
- /3/ Monitoring Report, rev.1, dated 21/09/2012 with attachments
- /4/ Monitoring Report, rev.2, dated 17/10/2012 with attachments
- /5/ Monitoring Report, rev.3, dated 12/11/2012 with attachments
- /6/ Monitoring Report, rev.4, dated 29/11/2012 with attachments
- /7/ Letter of Approval from the host country, issued by Ministry of Environment and Water of Bulgaria on 2225/02/2003
- /8/ Declaration of Approval issued by the State of Netherlands, ref. No 2009JI06, dated 15 Oct. 2009
- /9/ Letter issued by the Ministry of Environment and Water of Bulgaria, #26-00-920, dated 26.03.2011
- /10/ Verification Report # Bulgaria-VER/0005/2012, issued by Bureau Veritas
- /11/ Excel monitoring workbook, filename: SVI\_Workbook\_2012.xlsx
- /12/ ER calculation Excel workbook, filename: BB\_Calculation\_082012.xlsx
- /13/ Bulgarian guidelines for Track 1, published at the UNFCCC web-site  
([http://ji.unfccc.int/JI\\_Parties/DB/5EH2UF1UOGCEO6HKKAKY8PH\\_E4I9WX6/viewDFP](http://ji.unfccc.int/JI_Parties/DB/5EH2UF1UOGCEO6HKKAKY8PH_E4I9WX6/viewDFP))
- /14/ The Prototype Carbon Fund Monitoring Plan (MP) Bulgaria: Wood Industries, Svilosa Biomass Boiler Project October 2002 Prepared Energy for Sustainable Development Ltd (ESD), UK

### Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /1/ Initial calibration check protocol for whirl flow-meter EDZ 420, # 94036288, dated 13/03/2012;
- /2/ Protocol for replacement of low-meter PROWIRL EDZ 420, # 94036288 with whirl flow-meter PROWIRL 72F, # F406B402000, dated 22/05/2012.
- /3/ Factory calibration protocol # 1000183173 for whirl flow-meter PROWIRL 72F, # F406B402000;
- /4/ Protocols for calibration of 60t industrial scale type Mark Bentz # 021206 – dated 10.04.2008-valid until 04.2009; 09.04.2009-valid until 04.2010; 15.04.2010-valid until 04.2011; 28.04.2011-valid until 04.2012;



- /5/ Protocols for calibration of 60t industrial scale type Mark Bentz # 021206 – dated 10.04.2008-valid until 04.2009; 09.04.2009-valid until 04.2010; 15.04.2010-valid until 04.2011; 28.04.2011-valid until 04.2012; 04/06/2012 – valid until 06/2013
- /6/ Protocols for calibration of 300 kg. Industrial scale type Metler Toledo # 4280193 – dated 21.05.2008-valid until 05.2009; 27.05.2009-valid until 05.2010; 14.05.2010-valid until 05.2011; 18.05.2011- valid until 05.2012; 22/05/2012 – valid until 05/2013
- /7/ Final Protocol for acceptance of the job for Recultivation of a depot for industrial and dangerous waste, dated 16.06.2008, signed by “Svilozha” AD and “EnergostroyMontazh engineering” AD
- /8/ Protocol for inspection of a industrial waste depot, dated 05.02.2009 issued by the Regional environmental inspection – city of Veliko Tarnovo
- /9/ Protocol for inspection of a industrial waste depot, dated 06.07.2010 issued by the Regional environmental inspection – city of Veliko Tarnovo
- /10/ Programme for good corporate management, [http://www.svilozha.bg/documents/Svilozha\\_Corporate\\_Governance\\_Program\\_BG.pdf](http://www.svilozha.bg/documents/Svilozha_Corporate_Governance_Program_BG.pdf)
- /11/ ISO 9001:2008 № SOFO 170240 ; ISO 14001:2004 No SOF0170240/A and BS OHSAS 18001:2007 certificates
- /12/ Complex Environmental Permit N175-H1/2007, issued by the Bulgarian Ministry of Environment and Water
- /13/ Responsible Care Certificate, # 14/02.09.2003, issued by the Bulgarian Chamber of the Chemical Industry
- /14/ Protocols from the training of the personnel involved in the operation of the biomass boiler – 14/04/2010 – 14/04/2010; 10/03/2011 – 11/03/2011;
- /15/ Protocols from the written exams of the personnel involved in the operation of the biomass boiler – 18/02/10 ; 01 – 09/04/2011
- /16/ Protocol #01/10.02.2011 from the internal audit of the data input in the electronic diary for calculation of the emission reductions from the biomass boiler
- /17/ Protocol #01/12.01.2012 from the internal audit
- /18/ Report from the internal audit dated 05.12.2011
- /19/ Contract dated 04/01/2010 for purchase of electric energy signed by “Svilozha TPP” AD and “Svilocel” EAD
- /20/ Contract 26.00-661/HT/080304 , dated 16/02/2004 signed by “Svilozha” AD and “Svilozha TPP” AD for delivering of the information and data related to the ERPA  
Related to the ERPA signed between “Svilozha” AD and the World Bank.
- /21/ Protocol No 6-722/29/10/2012 for the period January – September / 2012, from “Svilozha TPP” AD, related to Contract No 26-00-661/HT/08.03.2004



**Persons interviewed:**

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

- /1/ Diana Ganeva, Project Coordinator, Sviloza AD
- /2/ Plamen Petrov, Director, Project Manager, Sviloza AD
- /3/ Yevgen Yesirkenov, Representative of the World Bank

## VERIFICATION REPORT

APPENDIX A: BULGARIA: BIOMASS BOILER, SVILOSA CO, SVISHTOV, BULGARIA PROJECT  
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
<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?	A written project approval (Letter of Approval) from the Host issued by Bulgarian Ministry of Environment and Water had been submitted on 25/02/2003. A Declaration of Approval issued by the State of Netherlands, ref. No 2009JI06, dated 15 Oct. 2009. The letter is addressed to "Svilosa Biomass Project" and is unconditional.	O.K.	O.K.
91	Are all the written project approvals by Parties involved unconditional?	Yes, the written project approval issued by the Bulgarian Ministry of Environment and Water is unconditional. However see CL1.	O.K.	O.K.
<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?	The project implementation has been checked according to the information provided in the PDD: ( <a href="http://ji.unfccc.int/JIITLProject/DB/ASKDPSK8ARA1APZGEW4VUXH080HYP2/details">http://ji.unfccc.int/JIITLProject/DB/ASKDPSK8ARA1APZGEW4VUXH080HYP2/details</a> ). The project as described in the PDD involves a 14 MW biomass boiler providing process steam (18 t/h ) to the pulp production plant in Svilosa company. The project uses the wood wastes produced at the plant to replace coal currently used, thereby substantially reducing the greenhouse gas emissions from coal burning, and the methane emissions from decomposition of the waste material. The following changes had been made during the last overhauling of the boiler in the beginning of 2012 compared to the original design described in the PDD:	CL1	O.K.



## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion																
		<p>- The thermal capacity of the boiler was increased to 19.721 MW and 28 t/h of saturated steam.</p> <p>CL1: Please provide explanation in a separate annex to the Monitoring report in accordance with PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01) about the changes in project capacity after the last overhauling of the boiler. Changes, if any, to the project design as described in the PDD, that occur after the determination has been deemed final, shall be justified by project participants. 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.</p>																		
93	What is the status of operation of the project during the monitoring period?	<p>During the monitoring period the operation of the project has been stable. The Pulp Mill has operated at nominal capacity after the overhauling that finished in the end of February, 2012. The present Monitoring Report concerns a monitoring period 01 January 2012 to 31 August 2012.</p>	O.K.	O.K.																
Compliance with monitoring plan																				
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?	<p>The approach and data sources used for monitoring were analyzed and compared with the requirements of the monitoring plan. The results of the analysis are described in the table below:</p> <table><tr><th>Requirement</th><th>Results</th></tr><tr><td>Process heat production (CHP)</td><td>O.K.</td></tr><tr><td>Total electricity generation , MWh/month (CHP)</td><td>O.K.</td></tr><tr><td>Electricity consumed on site, MWh/month (CHP)</td><td>O.K.</td></tr><tr><td>Electricity exported to NEK, MWh/month (CHP)</td><td>O.K.</td></tr><tr><td>Coal consumption, t/year (CHP)</td><td>OK</td></tr><tr><td>Calorific content of coal,MWh/t (CHP)</td><td>O.K.</td></tr><tr><td>Coal emission factor, tCO2/MWh (CHP)</td><td>O.K.</td></tr></table>	Requirement	Results	Process heat production (CHP)	O.K.	Total electricity generation , MWh/month (CHP)	O.K.	Electricity consumed on site, MWh/month (CHP)	O.K.	Electricity exported to NEK, MWh/month (CHP)	O.K.	Coal consumption, t/year (CHP)	OK	Calorific content of coal,MWh/t (CHP)	O.K.	Coal emission factor, tCO2/MWh (CHP)	O.K.	CAR1	O.K.
Requirement	Results																			
Process heat production (CHP)	O.K.																			
Total electricity generation , MWh/month (CHP)	O.K.																			
Electricity consumed on site, MWh/month (CHP)	O.K.																			
Electricity exported to NEK, MWh/month (CHP)	O.K.																			
Coal consumption, t/year (CHP)	OK																			
Calorific content of coal,MWh/t (CHP)	O.K.																			
Coal emission factor, tCO2/MWh (CHP)	O.K.																			

## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding		Draft Conclusion	Final Conclusion														
		<table><tr><td>Total useful heat production, MWh/year (CHP)</td><td>O.K.</td></tr><tr><td>Type and quantity of pulp output at the site on a monthly basis, tonnes/month</td><td>O.K.</td></tr><tr><td>Quantity of useful heat production, MWh/month</td><td>OK</td></tr><tr><td>CH4 emissions factors for fresh and stockpiled waste (tCH4/tonne waste)</td><td>CAR1</td></tr><tr><td>Tonnage of fresh waste consumed in the biomass boiler (tonnes/year).</td><td>O.K.</td></tr><tr><td>Tonnage of stockpile waste consumed in the biomass boiler (tonnes/year).</td><td>O.K.</td></tr><tr><td>National government regulations requiring retrospective landfilling of stockpile of woody waste materials</td><td>O.K.</td></tr></table>		Total useful heat production, MWh/year (CHP)	O.K.	Type and quantity of pulp output at the site on a monthly basis, tonnes/month	O.K.	Quantity of useful heat production, MWh/month	OK	CH4 emissions factors for fresh and stockpiled waste (tCH4/tonne waste)	CAR1	Tonnage of fresh waste consumed in the biomass boiler (tonnes/year).	O.K.	Tonnage of stockpile waste consumed in the biomass boiler (tonnes/year).	O.K.	National government regulations requiring retrospective landfilling of stockpile of woody waste materials	O.K.		
Total useful heat production, MWh/year (CHP)	O.K.																		
Type and quantity of pulp output at the site on a monthly basis, tonnes/month	O.K.																		
Quantity of useful heat production, MWh/month	OK																		
CH4 emissions factors for fresh and stockpiled waste (tCH4/tonne waste)	CAR1																		
Tonnage of fresh waste consumed in the biomass boiler (tonnes/year).	O.K.																		
Tonnage of stockpile waste consumed in the biomass boiler (tonnes/year).	O.K.																		
National government regulations requiring retrospective landfilling of stockpile of woody waste materials	O.K.																		
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?	The possible emissions of N <sub>2</sub> O were discussed with the PP during the site visit. The stockpile that was discussed by the Prototype Carbon Fund Monitoring Plan in October, 2002 was closed and re-cultivated in 2008 according to the orders of the Ministry of Environment and Water for closing of the plant industrial landfill. All fires had been extinguished before that. This is confirmed by a Protocol for completion of jobs dated 16.06.2008. (MR, ref.# 7, Category 2 documents). After the closing of the stockpiles no waste wood from that source was used in the boiler and no N <sub>2</sub> O is emitted in the atmosphere because no waste wood is burning. Therefore the previous approach is still applicable.		O.K.	O.K.														
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	The monitoring system applied by the project corresponds to the approved Monitoring Plan.		O.K.	O.K.														



## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	See 94 above.	O.K.	O.K.
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	<p>As stated in the Monitoring Plan the calculation of emission reductions is conservative because:</p> <ul style="list-style-type: none"> <li>- Biomass boiler heat production efficiencies assumed to be constant, and high. Assuming that the efficiency of the biomass boiler is equal to the manufacturer's specification, and is constant over the project lifetime, will minimise the amount of process and stockpile wastes calculated under the MP. Thus the CH<sub>4</sub> emission reduction calculations will be conservative;</li> <li>- Emissions reduction from N<sub>2</sub>O are ignored. Whilst there will undoubtedly be a reduction of N<sub>2</sub>O emissions as a result of stockpiled wastes being burned in the biomass boiler, there is no reliable emissions factor which can be used to quantify this reduction. Hence, N<sub>2</sub>O emissions reductions have been ignored. This will serve to make the MP conservative in its calculation of total emissions reductions resulting from the project;</li> <li>- Fixed, high efficiency factor of the biomass boiler, when calculating the input of stored biomass. Fixing the biomass boilers efficiency at the suppliers defined level is a conservative measure. A fixed high efficiency will tend to underestimate the derived quantity of stockpiled wood waste consumed by the boiler;</li> <li>- The modelled methane emission factors are conservative. The issues related to the measurement and modelling of</li> </ul>	CL 2 CL 3 CL 4	O.K.

## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>the methane emissions are outlined in Biomass Technology Group (BTG) BV study, “CH<sub>4</sub> emissions from biomass stockpiles – first results from the Svishtov pile”, BTG, Enschede, Netherlands, May 2002 . BTG have made conservative assumptions throughout their methodology, adopting UNFCC landfill data wherever possible. The landfill data is recognised to be conservative as the conditions at Svilosa (the type of waste, the small particle size of the waste, the water level and the regular compaction) are considered to be far more favourable to anaerobic digestion and thus the formation of methane. The report states that the modelled methane emissions for the Svilosa are site have a 90% chance of underestimating the actual emissions and a 10% chance of overestimation.</p> <p>CL2: The PP should provide in a clear and transparent way the calculation of baseline emissions, project emissions and emission reductions calculations along with the formulas applied.</p> <p>CL3: MR p.8, Table 2- in the second column the measured parameters are not presented. Please correct it.</p> <p>CL 4: Please provide additional information about the replacement of the steam flow-meter.</p>		
Applicable to JI SSC projects only				
96	<p>Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis?</p> <p>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 period determined?</p>	Not applicable.	O.K.	O.K.
Applicable to bundled JI SSC projects only				



## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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.
<b>Revision of monitoring plan</b>				
<b>Applicable only if monitoring plan is revised by project participant</b>				
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.
<b>Data management</b>				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The data collection and monitoring system described in the Monitoring Report is in line with the Monitoring Plan. It was checked during the on-site visit and found in line with the Monitoring Plan.	O.K.	O.K.
101 (b)	Is the function of the monitoring equipment, including its calibration status, in order?	The function of the monitoring equipment was checked during the on-site visit and found to be in order. The calibration status of the metering devices is up-to-date. Calibration stickers have been put	CAR 1	O.K.

## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>on every metering device showing that the devices are calibrated and the calibration is valid for the monitored period. However CAR 1 is placed:</p> <p>CAR 1: The industrial scale “Mary Betz” has no valid calibration for the period 01.05.2012 – 04.06.2012. In this a case requirement of GUIDELINES FOR ASSESSING COMPLIANCE WITH THE CALIBRATION FREQUENCY REQUIREMENTS (Version 01) should be applied:</p> <p>If during verification of a certain monitoring period, the DOE identifies that the calibration has been delayed and the calibration has been implemented after the monitoring period in consideration (i.e. the results of delayed calibration are available), the DOE may conclude its verification, provided the following conservative approach is adopted in the calculation of emission reductions:</p> <p>(a) Applying the maximum permissible error of the instrument to the measured values , if the results of the delayed calibration do not show any errors in the measuring equipment, or if the error is smaller than the maximum permissible error; or</p> <p>(b) Applying the error identified in the delayed calibration test, if the error is beyond the maximum permissible error of the measuring equipment.</p> <p>The error shall be applied in a conservative manner such that the adjusted measured values shall result in lower baseline emissions and higher project emissions / leakage.</p> <p>5.The error shall be applied for all measured values taken during the period between the scheduled date of calibration and the actual date of calibration.</p>		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The data collection and monitoring system described in the Monitoring Report is in line with the Monitoring Plan. All records used for the monitoring are recorded in the memory of the SCADA	FAR2, FAR3	O.K.



## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>system and on paper.</p> <p>During the site visit the procedures for archiving and keeping of all information regarding the project. It was confirmed that the procedures for preserving of data are incorporated in the ISO 9001:2008 QA/QC system implemented in the company. The Project Manager, Mrs. Daniela Ganeva is responsible for archiving and keeping of all data and information for a period of 5 years after the last transfer of ERUs from the project.</p> <p>However FARs 2 &amp; 3 are still open.</p>		
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	<p>The data collection and monitoring system described in the Monitoring Report is in line with the Monitoring Plan.</p> <p>The fact was confirmed by the audit team during the on-site visit.</p> <p>However FARs 6 &amp; 7 are still open</p>	FAR2, FAR3	O.K.
<b>Verification regarding programs of activities (additional elements for assessment)</b>				
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.
<b>Applicable to sample-based approach only</b>				
106	Does the sampling plan prepared by the AIE:	Not applicable.	O.K.	O.K.


**BUREAU  
VERITAS**

## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(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; – 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	Not applicable.	O.K.	O.K.



## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	secretariat for the JISC.s ex ante assessment? (Optional)			
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.

## VERIFICATION REPORT

**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
CL1: Please provide explanation in a separate annex to the Monitoring report in accordance with PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01) about the changes in project capacity after the last overhauling of the boiler.. Changes, if any, to the project design as described in the PDD, that occur after the determination has been deemed final, shall be justified by project participants. 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. The description and justification shall be made publicly available as an annex to the next monitoring report submitted for determination in accordance with paragraph 37 of the JI guidelines (verification) by the AIE.	92	In Annex 1 to the Monitoring report, rev.2 the overhaul performed as well the improvements made to the equipment are described in accordance to PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01).	<p>The information provided in Annex 1 is in compliance with the PROCEDURES REGARDING CHANGES DURING PROJECT IMPLEMENTATION (Version 01) and is considered sufficient.</p> <p>The audit team confirms that the conditions defined by paragraph 33 of the JI guidelines are still met for the project.</p> <p>The audit team also confirms that:</p> <ul style="list-style-type: none"> <li>(a) The physical location of the project has not changed;</li> <li>(b) The emission sources have not changed;</li> <li>(c) Baseline scenario has not changed;</li> <li>(d) The changes are consistent with the JI specific approach upon which the determination was prepared for the project.</li> </ul>

## VERIFICATION REPORT

<p>CL2: The PP should provide in a clear and transparent way the calculation of baseline emissions, project emissions and emission reductions calculations along with the formulas applied.</p>	<p>95(d)</p>	<p>In the Monitoring report, rev.2 the main calculation formulas for the baseline emission reductions are described; the formulas are clear and transparent to be traced in the Excel workbook (file “BB_Calculation_082012.xlsx”) and in an additional Excel calculation file (“SVI_Workbook_2012_rev2.xlsx”). Each formula in the MR is numerated as in the comments in the calculation files for tracing the formulas are indicated with the relevant numbers.</p> <p>In the sheet 7 “Methane emission factors” of the file “SVI_Workbook_2012_rev2.xlsx” the emission factors for fresh and stockpile wood wastes for the crediting period 2004-2012 are used for methane emission reductions calculating.</p> <p>The factors are defined before the project starting and are included as basis for the workbook composing during the preparation of PDD.</p> <p>The main parameters for the biomass volume definition in the methodology which are continuously monitored are the wood supply volume by species and the pulp produced. The rest of the factors are defined only once before the project starting and are pointed in table 10 of the MR, rev.2.</p> <p>The project emissions are zero since the whole biomass volume is incinerated and it’s not piled. The old landfill at Svilosa is closed down and recultivated according to the legislation requirements.</p> <p>According to the legislation requirements a new landfill for non-hazardous wastes, where the wood barks disposal is not allowed, is commissioned for exploitation by Complex Permit №363-H0/2008.</p>	<p>The information added is considered sufficient.</p> <p>CL 2 therefore can be considered closed.</p>
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## VERIFICATION REPORT

CL3: MR p.8, Table 2- in the second column the measured parameters are not presented. Please correct it.	95(d)	The table consists of parameters which are measured by the monitoring equipment. Only the heat output from the boiler measured by heat meter RMC621 is used directly in formula (1) for CO <sub>2</sub> emission reductions due to coal replacement. This parameter is indicated in table 1 of the MR, ver.2 as H <sub>BB</sub> . Swirl flow meter measures the flow rate in m <sup>3</sup> /h. It transfers the information to the RMC621 for defining the amount of heat energy generated in MW/h. The measured values about wood supplied and the produced pulp are not taken into account directly in the main formulas. They are used along with the test data from table 10 for the consumed wood waste volume calculation.	The information added is considered sufficient. CL 3 therefore can be considered closed.
CL 4: Please give additional information about the replacement of the steam flow-meter.	95(d)	Swirl flow meter – it replaced the damaged flow meter EDZ 420. Protocol for instalment dated May 22 <sup>nd</sup> , 2012 was issued. It transferred the information to the RMC621 for defining the amount of heat energy generated in MW/h.	he information added is considered sufficient. CL 4 therefore can be considered closed.
CL 5: Please indicate in the MR the person(s)/entity(ies) in charge of its preparation in the current reported period.		The persons responsible for MR preparation are presented in MR rev. 4 dated November 29th, 2012.	The persons responsible for the preparation and approval of the MR are indicated on p. 1 (title page) of Monitoring Report , Version 4, dated 29/11/2012.  CL 5 is considered closed.
CL 6: Please start Annexes with a new page.		Annex 1 is presented in the attached file Svilos_a_Annex 1_29112012	Annex 1 is presented to the audit team as a separate file named Svilos_a_Annex1_2911 2012.docx, dated 29/11/2012.  CL 6 is considered closed.

## VERIFICATION REPORT

CL 7: Please correct the term „emissions savings“ throughout the whole Monitoring Report and replace it with the term „emission reductions“		The term „emissions savings“ is corrected in the MR. For reference please see the Sheet 2MP Summary from the file Svi _Workbook_rev4	<p>The term „emission reductions“ is used throughout the whole document and attached tables and workbooks.</p> <p>CL 7 is considered closed.</p>
CL 8: Please explain what the index t stands for in Section 4.2; 4.3; 4.4 of the MR. Please amend the respective formulas with its description. Please also note that the same index is also used in Section 3.3. to define another notion.		<p>The index „t“ in Section 4.2; 4.3; 4.4 of the MR means the amount of the achieved emission reductions defined as tons (t) as follows:</p> <p>Section 4.2 - emission reductions due to coal replacement, defined as t CO<sub>2</sub></p> <p>Section 4.3 - emissions reductions due to wood burning (process and stockpile), defined as t CH<sub>4</sub></p> <p>In Section 4.3.1 and 4.3.2 is used Conversion factor from CH<sub>4</sub> to CO<sub>2</sub>e and emission reductions due to wood burning are defined also as t CO<sub>2</sub>e.</p> <p>Section 3.3. with index „t“ are marked the weight of the pulp produced in tons (t) and the weight of the wood volumes supplied in tons (t). These are parameters subject to monitoring and are entered monthly into the workbook.</p>	<p>The relevant clarifications are added in the MR, Version 4, dated 29/11/2012 and are presented to the audit team.</p> <p>CL 8 is considered closed.</p>



## VERIFICATION REPORT

CAR 1: The industrial scale “Mary Betz” has no valid calibration for the period 01.05.2012 – 04.06.2012. In this a case requirement of GUIDELINES FOR ASSESSING COMPLIANCE WITH THE CALIBRATION FREQUENCY REQUIREMENTS (Version 01) should be applied:

If during verification of a certain monitoring period, the DOE identifies that the calibration has been delayed and the calibration has been implemented after the monitoring period in consideration (i.e. the results of delayed calibration are available), the DOE may conclude its verification, provided the following conservative approach is adopted in the calculation of emission reductions:

(a) Applying the maximum permissible error of the instrument to the measured values, if the results of the delayed calibration do not show any errors in the measuring equipment, or if the error is smaller than the maximum permissible error;

or  
(b) Applying the error identified in the delayed calibration test, if the error is beyond the maximum permissible error of the measuring equipment.

The error shall be applied in a conservative manner such that the adjusted measured values shall result in lower baseline emissions and higher project emissions / leakage.

5. The error shall be applied for all measured values taken during the period between the scheduled date of calibration and the actual date of calibration.

101 (a)

The industrial scale “Mary Betz” has no valid calibration for the period 01.05.2012 – 04.06.2012. Due to that reason the GUIDELINES FOR ASSESSING COMPLIANCE WITH THE CALIBRATION FREQUENCY REQUIREMENTS (Version 01) are applied, i.e. a conservative approach for applying 3% maximum permissible error of the instrument.

Calculations:

Period	01.05.2012-31.05.2012		
Wood	Acacia	Beech	Oak
Wood delivered (t)	78,14	7187,76	15789,88
Decreased wood volumes (t)	2,344	215,633	473,696
Conservative value calculated (t)	<b>75,796</b>	<b>6972,127</b>	<b>15316,184</b>
Period	01.06.2012-04.06.2012		
Wood delivered (t)	0,000	771,200	3303,660
Decreased wood volumes (t)	-	23,136	99,110
Conservative value calculated (t)	-	748,064	3204,55
Period	01.06.2012-30.06.2012		
Wood delivered (t)	0,000	10345,26	18818,96
Conservative value calculated (t)	<b>0,000</b>	<b>10322,124</b>	<b>18719,85</b>

The decrease of the total amount of the wood delivered within the stated monitoring period is insignificant (0,06% of the acacia, 0,5% of the beech and 0,4% of the oak). It does not influence the emission reductions as a whole.

Once the corrected data were entered into the workbook rev. 1, the total amount of emission reductions within the monitoring period calculated through applying the conservative approach for the period without calibration, i.e. 01.05.-31.05.2012, and 01.06.-04.06.2012, was not changed.

The amendment to the VR is considered sufficient, hence CAR 1 is considered closed.

## VERIFICATION REPORT

<p>CAR 2: It is stated in Section 2.3. (p.6) of the final version of the MR that: "Within the period January 1– August 31, 2012 emissions in amount of 94 839 t CO<sub>2</sub>e were reduced. For the calculation data from the Combined Heat and Power Plant (CHPP) Svilosa AD were used, i.e. coal calorific value, coal emission factor, and thermal efficiency for 2011. Please provide information regarding the performance of the CHPP during the monitored period and calculate the emission reductions according to that data.</p>		<p>In Monitoring Report, version 3, dated 12/11/2012 the PP has revised the approach and provided to the audit team an up-to-date protocol from the Combined Heat and Power Plant (CHPP) Svilosa AD for the period 01/01/2012 – 30/09/2012.</p> <p>The relevant text in Section 2.3 of the MR, Version 3 has been changed as follows:</p> <p>"Within the period January 1– August 31, 2012 emissions in amount of 111 586 t CO<sub>2</sub>e were reduced. For the calculation data from the Combined Heat and Power Plant (CHPP) Svilosa AD were used, i.e. coal calorific value, coal emission factor, and thermal efficiency for the period January – September 2012."</p>	<p>The amount of Emission Reductions have been re-calculated based on the up-dated protocol and made consistent throughout the whole document.</p> <p>The audit team checked the new protocol and considered it correct and reliable.</p> <p>CAR 2 is considered closed</p>
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## VERIFICATION REPORT

FAR 1: Please provide specific dates of the beginning and the end of the crediting period in the next Monitoring Report	93	The required information has been amended in the Monitoring Report, dated September 21st, 2012, rev.1.	The information added is considered sufficient.  FAR 1 is therefore considered closed.
FAR 2: Please describe in the MR the SCADA system as part of the data management system. Provide information about the authorized certification, protection from unauthorized access and service procedures.	101(a)	In the MR, rev.2 dated October 5 <sup>th</sup> , 2012, section 7.1. Management and monitoring system there is a description of the SCADA system as part of the Management and monitoring system. The system is developed by Jarnforsen – Sweden. Changes related to requirements are performed by ECOSIM, a company based in Pleven. In case problems related to the SCADA system functioning occur, Svilosa is in contact with ECOSIM, despite the fact there is no contract for regular maintenance.	The information added is considered sufficient.  FAR 2 is therefore considered closed.
FAR 3: Please provide confirmation in the next MR that all data and information from the project will be kept for 2 years after the date of the last transfer of ERUs from the project.	101(a)	The required confirmation has been amended in the Monitoring Report, dated October 5th, 2012, rev.2. section 7.1. Management and monitoring system .  In compliance to <b>Procedure P_03_Collection and storage of data, para. 2.2.4 Information loss prevention</b> , which is a part of the <b>MMS</b> the term for document storage after the final transfer of emission reductions from the project is stated to 5 years.	The information added in the Monitoring Report, ver.2, dated 17/10/2012.is considered sufficient.  FAR 3 is therefore considered closed.
FAR 4: The PP is requested to provide in the next MR information about data source for each monitoring parameter subject to single, monthly or annual entry.	101(a)	The required information has been amended in the Monitoring Report, dated September 21st, 2012, rev.1.	The information added is considered sufficient.  FAR 4 is therefore considered closed.
FAR 5: Please describe clearly in the next Monitoring Report in what way the persons in charge of the process data management are familiar with the procedures from the Management and monitoring system.	101(d)	The required information has been amended in the Annual Monitoring Report, dated September, 21st, 2012, rev.1.	The information added is considered sufficient.  FAR 5 is therefore considered closed.



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FAR 6: The PP is requested to provide in the next MR the amount of ERs as per PDD and per MR split by years of the reported monitoring period. PP is requested as well to provide justification for the difference in the ERs projected and achieved in the reported monitoring period.	101(d)	The required information has been amended in the Monitoring Report, dated October 5th, 2012, rev.2. section 6.3.2. CH4 Emissions reductions due to process wood burning. Please see the explanations below Table 9 Planned and actual emission reductions on page 15.	The information added is considered sufficient. FAR 6 is therefore considered closed.
FAR 7: Please provide information on the collection and archiving of information on the environmental impacts of the project. Please provide reference to the relevant Bulgarian regulations.	101(d)	Archiving of the monitoring data is implemented in accordance to Procedure P4-И1-O Monitoring of the treatment equipment and containers for the wastes and Procedure P12 Monitoring and measurement of the processes of the Environmental Management System in accordance to ISO 14001:2004. Svilosa has sent a letter to the MoEW and asked for any changes made to the regulations concerning carrying out of the landfills in compliance to the legislation. No answer was submitted by the MoEW. There is no information published on the MoEW web site as well. Currently in Bulgaria there are no landfills for wood wastes with equipment for methane emissions elimination.	The information added is considered sufficient. FAR 7 is therefore considered closed.