



DETERMINATION REPORT CCGS

DETERMINATION OF THE
“BARK AND WOOD WASTES TO HEAT AT OJSC
“SOLOMBALA SAWMILL AND WOODWORKING
PLANT”, ARKHANGELSK, RUSSIAN
FEDERATION”

BUREAU VERITAS CERTIFICATION
REPORT No. RUSSIA-DET/0131/2011
REVISION No. 01



Determination Report on JI project

“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation”

Date of first issue: 29/06/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: CCGS LLC	Client ref.: Mr. Mikhail Yulkin

Summary:

Bureau Veritas Certification has made the determination of the small-scale project “Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation” of company CCGS LLC, located in Arkhangelsk, Troitskiy av.,38 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 determination scope is defined as an independent and objective review of the project design document, the project’s baseline study, monitoring plan and other relevant documents, 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 determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the determination process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification’s opinion that the project applies the appropriate baseline and monitoring methodology and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.: RUSSIA-det/0131/2011	Subject Group: JI
Project title: “Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation”	
Work carried out by: Daniil Ukhanov – Lead verifier	
Work reviewed by: Leonid Yaskin – Internal Technical Reviewer	
Work approved by: Leonid Yaskin – Operational Manager	
Date of this revision: 29/06/2011	Rev. No.: 01
Number of pages: 55	

<input checked="" type="checkbox"/>	
<input type="checkbox"/>	Limited distribution
<input type="checkbox"/>	Unrestricted distribution

“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation”

Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
BWW	Bark and Wood Wastes
CAR	Corrective Action Request
CHPP	Combined Heat and Power Plant
CL	Clarification Request
CO2	Carbon Dioxide
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ERU	Emission Reduction Unit
GHG	Greenhouse House Gas(es)
GWP	Global Warming Potential
IE	Independent Entity
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
NGO	Non Governmental Organization
NPV	Net Present Value
PDD	Project Design Document
PP	Project Participant
RF	Russian Federation
SSWP	Solombala Sawmill and Woodworking Plant
tCO2e	Tonnes CO2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change

“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation”

Table of Contents		Page
1	INTRODUCTION	4
1.1	Objective	5
1.2	Scope	5
1.3	Determination team	4
2	METHODOLOGY	6
2.1	Review of Documents	6
2.2	Follow-up Interviews	7
2.3	Resolution of Clarification and Corrective Action Requests	7
3	PROJECT DESCRIPTION	7
4	DETERMINATION CONCLUSIONS	9
4.1	Project approvals by Parties involved (19-20)	9
4.2	Authorization of project participants by Parties involved (21)	10
4.3	Baseline setting (22-26)	10
4.4	Additionality (27-31)	11
4.5	Project boundary (32-33)	12
4.6	Crediting period (34)	12
4.7	Monitoring plan (35-39)	13
4.8	Leakage (40-41)	15
4.9	Estimation of emission reductions or enhancements of net removals (42-47)	15
4.10	Environmental impacts (48)	16
4.11	Stakeholder consultation (49)	16
4.12	Determination regarding small scale projects (50-57)	17
4.13	Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64)	17
4.14	Determination regarding programmes of activities (65-73)	17
5	SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES	17
6	DETERMINATION OPINION.....	17
7	REFERENCES	18
	DETERMINATION PROTOCOL	21



“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation”

1 INTRODUCTION

CCGS LLC (hereafter called “CCGS”) has commissioned Bureau Veritas Certification to determine small-scale JI project “Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant” (hereafter called “the project”) located in the city of Arkhangelsk, Arkhangelsk Region, the Russian Federation.

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

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

1.1 Objective

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emissions reductions units (ERUs).

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 determination 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 determination is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Determination team

The determination team consists of the following personnel:

Daniil Ukhanov

Bureau Veritas Certification Climate Change Lead Verifier

This determination report was reviewed by:

Leonid Yaskin

Bureau Veritas Certification, Internal reviewer



Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

2 METHODOLOGY

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

In order to ensure transparency, a determination 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 determination and the results from determining the identified criteria. The determination protocol serves the following purposes:

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by CCGS and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, CCGS revised the original PDD v.1.0 dated 07/04/2011 and resubmitted it as v.1.2 dated 27/06/2011.

The first deliverable of the document review was the Determination Protocol Version 01 dated 26/05/2011 which contained 24 CARs and 4 CLs.

The determination findings presented in this Determination Report Version 01 and Appendix A relate to the project as described in the PDD versions 1.0 (published) and version 1.2 (final) dated 27/06/11.

Determination Report on JI project
 “Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
 Arkhangelsk, Russian Federation”

2.2 Follow-up Interviews

On 23/06/2011 and 24/06/2011 Bureau Veritas Certification lead verifier Daniil Ukhanov performed a site-visit. Interviews with the project participant OJSC “Solombala Sawmill and Woodworking Plant” and the PDD developer CCGS were conducted to confirm the selected information and to clarify some issues identified in the document review. Representatives of SSWP and the PDD Developer CCGS were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
OJSC SSWP	<ul style="list-style-type: none"> ➤ Reasoning for project implementation ➤ Project management organization ➤ Project history and Implementation schedule ➤ Baseline scenario ➤ Common practice ➤ Project scenario ➤ Emission calculation ➤ Investment issues ➤ Commissioning and proven trials ➤ Capacity issues ➤ Environmental permissions ➤ Environmental Impact Assessment
CONSULTANT CCGS	<ul style="list-style-type: none"> ➤ Baseline scenario ➤ Common practice ➤ Project scenario ➤ Investment issues
Stakeholders	➤ N/A

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination 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 project design.

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



Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

(a) Corrective action request (CAR), requesting the project participants to correct a mistake in the published PDD that is not in accordance with the (technical) process used for the project or relevant JI project requirement or that shows any other logical flaw;

(b) Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the JI project requirement in question;

(c) Forward action request (FAR), informing the project participants of an issue, relating to project implementation but not project design, that needs to be reviewed during the first verification of the project.

The AIE should 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 determination.

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

3 PROJECT DESCRIPTION

The aim of the project is utilization of on-site generated bark and wood wastes (BWW) in a biofuel boiler house to produce heat for the needs of OJSC “Solombala Sawmill and Woodworking Plant” (SSWP) and termination of heavy fuel oil combustion and BWW disposal to the dump. Prior to the project implementation heat was supplied to industrial site No.2 of SSWP from two heavy fuel oil boiler houses. Significant quantities of BWW from the Plant’s production lines were disposed to the dump due to the lack of waste utilization capacities.

It has to be said that BWW are categorized as a difficult-to-burn fuel due to their non-uniform particle size distribution and high moisture content. Because of the numerous difficulties associated with using BWW as fuel, there are extensive BWW dumping areas next to every sawmill in the Arkhangelsk Region. The sawmills’ heat and electricity demand is generally met by fossil fuel combustion at the sawmill itself and/or by outside energy supplying companies.

The absence of the project would mean continuation of the existing heat production and wood waste handling practices that are acceptable for the plant and are not in conflict with the Russian laws and regulations.

The project envisages construction of a biofuel hot-water boiler house with the installed capacity of 18 MW. The boiler house is fitted with three URBAS boilers (Austria), 6 MW each. Two boilers are continuously in

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

operation, one is a standby boiler. The only fuel for the boiler house is bark and sawdust. BWW are delivered from the Plant’s own sawmilling and woodworking shops. The boiler house is located on industrial site No.2 of SSWP. Heat from the boiler house is supplied to the end-users which are located on the same site via the existing heat distribution network.

The contract with Austrian company AME GmbH for supply of main equipment was signed on June 6, 2001 (this date is considered to be the starting date of the project), and was preceded by lengthy negotiations with potential equipment suppliers and by elaboration of various boiler house configuration options. The supply of equipment and construction and installation works under the project were started in October 2001. The official commissioning took place in December 2002.

The project resulted in:

- ensuring almost complete utilization of bark and wood wastes from SSWP, thus their disposal to the dump is avoided;
- termination of heavy fuel oil combustion in the Plant’s old boiler houses;
- mitigation of negative environmental impact;
- reduction in greenhouse gas (GHG) emissions by an average of 38 thousand tCO₂e/year over the period 2008-2012.

The decision to implement the project was taken by the company’s management in view of the possibility to offset some costs and to reduce the payback period by selling GHG emission reductions in the international market. Without such possibility the economic parameters of the project were unacceptably low. The project implementation using Article 6 of the Kyoto Protocol was discussed, inter alia, with Autonomous Non-Commercial Organization “Environmental Investments Center” with which a respective protocol of intentions was signed as early as August 2000.

Much hope for joint implementation of this project was given by the fact that at the international research and application conference on climate change which took place in Arkhangelsk in 2000, Arkhangelsk Region was suggested as a pilot region for compliance and implementation of the Kyoto mechanisms. In the following years there were several more conferences and workshops dealing with this issue in Arkhangelsk, and in 2005 a Climate Change and GHG Emission Monitoring Council was established under the Arkhangelsk Regional Administration; one of its stated targets was to review joint implementation projects proposed for implementation by companies and plants of the Arkhangelsk Region.

Since the project brings benefits to the local environment, it got positive reviews from the Chief State Health Inspector of Arkhangelsk (2001) and

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

from the Head of the Northern District Administration of Arkhangelsk (2005). These comments, besides local positive environmental effect, also mention the GHG emission reduction effect.

Eventually, as soon as all necessary JI approval procedures became operational in the Russian Federation (2010), OJSC “Solombala SWP” started cooperation with CCGS LLC, which was chosen among other companies as a partner for preparation of the required documentation and selling GHG emission reductions in the international market.

4 DETERMINATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 24 Corrective Action Requests and 4 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

The project has no approvals by the Parties involved, therefore CAR 05 remains pending.

A written project approval by Party B should be provided to the AIE and made available to the secretariat by the AIE when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines. It has not been provided to AIE at the determination stage.

4.2 Authorization of project participants by Parties involved (21)

The participation for OJSC SSWP listed as project participant in the PDD is not authorized by the Host Party because the project approval by the Host Party was not received. Party B is not determined.

The authorization is deemed to be carried out through the issuance of the project approvals.

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

4.3 Baseline setting (22-26)

The PDD explicitly indicates that using a methodology for baseline setting and monitoring developed in accordance with appendix B of the JI guidelines (hereinafter referred to as JI specific approach) was the selected approach for identifying the baseline.

JI specific approach

The PDD provides a detailed theoretical description in a complete and transparent manner, as well as justification, that the baseline is established:

- (a) By listing and describing the following plausible future scenarios (in two groups) on the basis of conservative assumptions and selecting the most plausible being Alternative H1 and Alternative W1:

Alternatives that ensure the consumers of industrial site #2 with required amount of heat:

- H1) Continuation of the current situation;
- H2) Construction of a gas-fired boiler house;
- H3) Construction of coal-fired boiler house;
- H4) Project activity without joint implementation mechanism.

Alternatives to BWW combustion under the project were identified:

- W1) Continuation of the current situation;
- W2) Use of BWW as a fuel for heat and power generation at Arkhangelsk CHPP;
- W3) Use of BWW as feedstock for the Hydrolisys Plant;
- W4) Project activity without joint implementation mechanism.

- (b) By taking into account key factors that affect a baseline, such as availability of different types of fuel and investment necessity.

- (c) Basically in a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors.

After screening H1 and W1 alternatives were left as the most plausible, namely:

- H1) Continuation of the current situation;
- W1) Continuation of the current situation.

All explanations, descriptions and analyses pertaining to the baseline in the PDD are made in accordance with the referenced JI specific approach and the baseline is identified appropriately.

Outstanding issues related to Baseline setting (22-26), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 06 - CAR 10, CL 03).

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

4.4 Additionality (27-31)

JI specific approach

Traceable and transparent information showing that the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to reductions of anthropogenic emissions by sources of GHGs was provided in PDD Section B.2.

The PDD developer provides a justification of the applicability of the approach with a clear and transparent description, as per item 4.3 above. PDD developer described and scrutinized plausible alternative scenarios which have been provided in Section B.1 (refer to item 4.3 above).

Justification of additionality has been done in several steps, the steps are as follows:

- 1) Description and analysis of the alternatives (refer to Section B.1);
- 2) Investment analysis (including sensitivity analysis);
- 3) Common practice analysis.

The key additionality proofs were the results of the investment analysis and common practice analysis. The investment analysis shows that the project with capital investment 58 mln rubles has IRR=16,48 % lower than chosen benchmark (IRR=20%), hence it is not financially attractive. The sensitivity analysis of variations of key parameters (investment costs, heat production, heavy fuel oil price, discount rate) confirms the conclusion of the basic investment analysis.

The spreadsheet with the investment and sensitivity analyses was made available for the verifier, and Bureau Veritas Certification will submit it to JISC at the final determination as the supporting documentation.

The common practice analysis has reasonably shown that the proposed JI project does not represent a widely observed practice in the geographical area concerned.

The verifier determined that additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

Outstanding issues related to Additionality (27-31), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 11 –CAR 16).

4.5 Project boundary (32-33)

JI specific approach

The project boundary defined in the PDD, Section B.3, Table B.3-1 for project and baseline scenario accordingly, encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

- (i) Under the control of the project participants such as:
 - Methane and nitrogen oxide emissions from biofuel boiler house, BWW combustion;
- (ii) Reasonably attributable to the project such as:
 - “Finnish” boiler house, combustion of heavy fuel oil;
 - Waste wood dumps, anaerobic decay of BWW;
 - “Russian” boiler house, combustion of heavy fuel oil;
 - Power supply from the external power grid for operational of heavy fuel oil boiler houses, combustion of fossil fuel;
 - BWW transportation to dumps;
- (iii) Significant such as:
 - All the sources mentioned above, except BWW transportation to dumps, “Russian” boiler house, combustion of heavy fuel oil, power supply from the external power grid for operation of heavy fuel oil boiler houses, combustion of fossil fuel.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD, Section B.3.

Based on the above assessment, the AIE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

Outstanding issues related to Project boundary (32-33), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 17 – CAR 20).

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project began, and the starting date is 06/06/2001, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 20 years or 240 months.

The PDD states the length of the crediting period in years and months, which is 5 years or 60 months, and its starting date as 01/01/2008, which is on the date the first emission reductions are generated by the project.

4.7 Monitoring plan (35-39)

The PDD, in its monitoring plan section, explicitly indicates that JI specific approach was selected.

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

JI specific approach

The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as:

- Production of heat in the new biofuel boiler house over the year y;

Remainder factors and key characteristics are listed in the PDD, Section D.2.

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. be clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions to be monitored such those listed in the PDD, Section D.2.

The monitoring plan is developed subject to the list of standard variables contained in appendix B of “Guidance on criteria for baseline setting and monitoring” developed by the JISC.

All categories of data to be collected in order to monitor GHG emissions from the project and determine the baseline of GHG emissions (Option 1) are described in required details.

The monitoring plan explicitly and clearly distinguishes:

- (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as:
 - Efficiency factor of heavy fuel oil boilers of the old hot water boiler house;
 - Efficiency factor of biofuel boilers of the new boiler house;
 - Net calorific value of BWW;
 - CO₂ emission factor for heavy fuel oil;
 - CH₄ emission factor for BWW;
 - N₂O emission factor for heavy fuel oil;
 - GWP for N₂O;
 - Lignin fraction of C for BWW;
 - Decomposition rate constant for BWW;
 - Organic carbon content in BWW on dry basis;
 - BWW moisture;
 - Conversion factor from kg carbon to landfill gas quantity;
 - Generation factor;
 - Percentage of the stockpile under anaerobic conditions;
 - Methane oxidation factor;

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

- Methane concentration in biogas;
 - Methane density;
 - GWP for CH₄.
- (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination (there are no such parameters).
- (iii) Data and parameters that are monitored throughout the crediting period, such as those presented in Section D.2 for the project and for the baseline such as:
- Production of heat in the new biofuel boiler house over the year y.

Step-by-step application of the used approach for monitoring is described in PDD Section D including monitoring procedures, formulae, parameters, data sources etc.

The monitoring plan describes the methods employed for data monitoring (including its frequency); please refer to PDD, Section D.2.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions, as appropriate, such as formulae in Section D.1 for baseline emissions (Formula D.1-3 – D.1-6), Section D.1 for project emissions (Formula D.1-2).

The monitoring plan presents the quality assurance and control procedures for the monitoring process, all the QC/QA procedures are specified in PDD Section D.3.

The procedures include, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. The operating and management structure for GHG monitoring is described in PDD Section D.4, Fig. D.4-2.

On the whole, the monitoring report reflects good monitoring practices appropriate to the project type.

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured but not including data that are calculated with equations.

Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

The monitoring plan indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.

Outstanding issues related to Monitoring plan (35-39), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 21 and CL 04).

4.8 Leakage (40-41)

JI specific approach

The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains that the estimation of leakage is reasonably neglected from conservative reasons.(see Section B.3).

Outstanding issues related to Leakage (40-41), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 22).

4.9 Estimation of emission reductions or enhancements of net removals (42-47)

JI specific approach

The PDD indicates assessment of emissions in the baseline and project scenario as the approach chosen to estimate the emission reductions of the project.

The PDD provides the ex ante estimates of:

- (a)Emissions for the project scenario (within the project boundary), which are 2,412 tons of CO₂eq;
- (b)Leakage are considered zero;
- (c)Emissions for the baseline scenario (within the project boundary), which are 189,545 tons of CO₂eq;
- (d)Emission reductions adjusted by leakage (based on (a)-(c) above), which are 187,132 tons of CO₂eq.

Reporting period: From 01/01/2008 to 31/12/2012.

The formulae used for calculating the estimates are referred in the PDD, Section D.1 and in Sections E.1 and E.4.

For calculating the estimates referred to above, key factors defined in the monitoring plain influencing the project and baseline emissions were taken into account, as appropriate.

The estimation referred to above is based on conservative assumptions and the most plausible scenario in a transparent manner.



Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

The estimates referred to above are consistent throughout the PDD.

The annual average of estimated emission reductions over the crediting period is calculated by dividing the total estimated emission reductions over the crediting period by the number of months of the crediting period, and multiplying by twelve.

The PDD Section E includes an illustrative ex ante emissions calculation.

4.10 Environmental impacts (48)

The PDD lists and attaches documentation on the analysis of the environmental impacts of the project (transboundary impacts are not applicable to the project), in accordance with procedures as determined by the host Party, such as the Federal Law “On the Environmental protection #7-FZ”.

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party.

Outstanding issue related to Environmental impacts (48), PP’s response and the AIE conclusion are summarized in Appendix A (refer to CAR 23 and CAR 24).

4.11 Stakeholder consultation (49)

Stakeholder consultation was not undertaken as it is not required by the host party.

4.12 Determination regarding small scale projects (50-57)

The project activity falls under the following two types:

1. Type I – Renewable energy projects. Category C – Thermal energy production with or without electricity;
2. Type III – Other projects. Category E – Avoidance of methane production from biomass decay through controlled combustion, gasification or mechanical/thermal treatment. This was done in accordance with types and categories of projects adopted by the Clean Development Mechanism Executive Board.

For the confirmation that the proposed JI SSC project is not a debundled component of a large project please refer to PDD Section A.4.5.



Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

4.13 Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64)

Not applicable

4.14 Determination regarding programmes of activities (65-73)

Not applicable

5 SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES

No comments, pursuant to paragraph 32 of the JI Guidelines, were received.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the “Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation”, Russian Federation” Project in Russia. The determination 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 determination consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final determination report and opinion.

Project participant used the JI specific approach for demonstration of the additionality. In line with this approach, the PDD provides the investment analysis and common practice analysis, to determine that the project activity itself is not the baseline scenario.

Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfilment of stated criteria.

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party.



Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 1.2 dated 27/06/2011 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The determination is based on the information made available to us and the engagement conditions detailed in this report.

7 REFERENCES

Category 1 Documents:

Documents provided by OJSC SSWP and CCGS that relate directly to the GHG components of the project.

- /1/ “Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”, Arkhangelsk, Russian Federation”, PDD Version 1.2 dated 27/06/2011.
- /2/ Excel spreadsheet with calculation of emission reduction and investment analysis “SSM (Version 1.1)_fin_eng”.

Category 2 Documents:

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

- /1/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.
- /2/ JISC Guidance on criteria for baseline setting and monitoring. Version 02.
- /3/ Glossary of Joint Implementation terms. Version 02, JISC.
- /4/ 2006 IPCC Guidelines on National Greenhouse Gas Inventories, Volume 2, Energy.
- /5/ “Regulation of realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change”. Approved by the RF Government Decree # 843 of 28/10/2009 “About measures on realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change”.
- /6/ JSC “Solombala SWP”, “Boiler House” design documentation. Developer: JSC “Arkhhgiprodev”. Arkhangelsk, 2002.
- /7/ UR-FRR-6000 utilizing energy boilers test report, OJSC “Solombala SWP”, Arkhangelsk, 2002.
- /8/ Provisions for JI small-scale projects, Version 03, JISC.
- /9/ Methane and Nitrous Oxide Emissions from Biomass Waste Stockpiles, PCFplus Research, World Bank, August 2002.



Determination Report on JI project
“Bark and wood wastes to heat at OJSC “Solombala Sawmill and Woodworking Plant”,
Arkhangelsk, Russian Federation”

- /10/ Reference Book on Small Boiler Units/Edited by K.F.Roddatis. M.: Energoatomizdat, 1989.
- /11/ Methodological tool to determine the baseline efficiency of thermal or electric energy generation systems. Version 01. CDM Executive Board.
- /12/ Methodological “Tool to determine project emissions from flaring gases containing methane”. Version 01. CDM Executive Board.
- /13/ World Resources Institute (WRI) and World Business Council for Sustainable Development. 2001. Mobile Combustion CO2 Emissions Calculation. Guidelines to calculation. Washington D.C.: World Resources Institute.
- /14/ Act of commissioning of biofuel boiler house from December 16, 2002.
- /15/ Commercial proposal for Solombala Sawmill and Woodworking Plant.
- /16/ Letter from Head of power supply department concerning the own electricity demands of biofuel boiler house.
- /17/ Protocol of intentions between Centre of environmental investments and OJSC Solombala SWP.

Persons interviewed:

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

- /1/ S. Popov – Head of Energy Department, OJSC SSWP;
- /2/ S. Pigin – Head of human safety department, OJSC SSWP;
- /3/ Y. Kostolomova – Environmental specialist, OJSC SSWP;
- /4/ E. Ershov – Senior specialist, Project Development Department, CCGS LLC.
- /5/ A. Samorodov – Director, Project Development Department, CCGS LLC.