DETERMINATION REPORT

CLIMATE CHANGE GLOBAL SERVICES (CCGS LLC)

DETERMINATION OF THE

"Pellet Production from Sawmill Wastes at CJSC —Sawmill 25 , Arkhangelsk, the Russian Federation"

BUREAU VERITAS CERTIFICATION

REPORT NO. RUSSIA/0067-2/2010 V.1

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Determination Report on JI project "PELLET PRODUCTION FROM SAWMILL WASTES AT CJSC — SAWMILL 25, ARKHANGELSK, THE RUSSIAN FEDERATION"

Date of first issue:	Organizational unit:
16/09/2010	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
CCGS LLC	Mr. Vladimir Dyachkov

Summary:

Bureau Veritas Certification has made the determination of the project "Pellet Production from Sawmill Wastes at CJSC - Sawmill 25, Arkhangelsk, the Russian Federation", 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 guidelines and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria. The determination is carried out under Track 1 as per Glossary of JI terms, in line with paragraph 23 of the JI guidelines.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline, monitoring plan and other relevant documents, and consists of the following three phases: i) desk review of the project design document and particularly 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, Table 5. Taking into account this output, the project proponent has revised its project design document.

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

Report No.:	Subject Group:
RUSSIA/0067-1/2010 v.1	JI

Project title:
Pellet Production from Sawmill Wastes at CJSC —Sawmill 25 , Arkhangelsk, the Russian Federation

Work carried out by:
George Klenov – Team Leader, Lead verifier

Vladimir Lukin – Team member, Lead verifier

Work verified by:
Leonid Yaskin - Internal technical reviewer

Work approved by:
Flavio Gomes – Operational Manager

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Indexing terms:

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Abbreviations

AIE	Accredited Independent Entity
BL(S)	Baseline (Study)
BV	Bureau Veritas
BWW	Bark and Wood Wastes
CAR	Corrective Action Request
CCGS	Climate Change Global Services (LLC)
CL	Clarification Request
CO_2	Carbon Dioxide
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ERU	Emission Reduction Unit
GHG	Green House Gas(es)
I	Interview
IE	Independent Entity
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MoV	Means of Verification
NGO	Non Governmental Organization
NPV	Net Present Value
PDD	Project Design Document
PP	Project Participant
SSC Project	Small-scale Project
SWDS	Solid Wastes Disposal Site
UNFCCC	United Nations Framework Convention for Climate Change

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1 Introduction

Climate Change Global Services, LLC has commissioned Bureau Veritas Certification to determine its JI project "Pellet Production from Sawmill Wastes at CJSC — Sawmill 25, Arkhangelsk, the Russian Federation" (hereafter called "the project"). Climate Change Global Services, LLC (CCGS) coordinates the project and the determination process on behalf of the project participants CJSC "Sawmill-25" in the Arkhangelsk.

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 purpose of the determination is to provide an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan, 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 emission reduction 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 small-scale (SSC) project design document (PDD), the project's baseline study (BLS) and monitoring plan (MP) and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements for Joint Implementation (JI) projects, the guidelines for the implementation of Article 6 of the Kyoto Protocol (Decision 16/CP.7) as agreed in the Marrakech Accords, in particular the verification procedure under the JI Supervisory Committee, and associated interpretations. Bureau Veritas Certification has, based on the recommendations in the Validation and Verification Manual (IETA/PCF), employed a risk based approach in the determination process, focusing on the identification of significant risks for project implementation and generation of ERUs.

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

1.3 GHG Project Description (quoted by PDD Section A.2)

The aim of the project

The project is aimed at utilizing sawmill residues by pelletizing which will allow to reduce bark and wood wastes disposal to the dump and thus would cut down methane emissions. Pellets will be used as fuel mainly overseas.

Situation before the starting date of the project

Prior to the project implementation there was a big surplus of sawmill wastes at CJSC —Sawmill 25. There was no demand for excessive wastes and therefore they had to be disposed to the dump. Generally, disposal of such unclaimed wastes to the dumps is common practice at all sawmills of the Arkhangelsk Region and it suits them. That is why one can find vast areas of bark and sawdust disposal sites in the neighborhood of any sawmill.

The baseline scenario

Under the baseline scenario the company would continue with the existing practice of disposal of excessive sawmill wastes to the dump. Anaerobic decomposition of wastes at the dump would have been accompanied by release of methane into atmosphere – a greenhouse gas with global warming potential of 21.

The project scenario

The project scenario involves setting up a plant for pellet production from sawmill residues at CJSC —Sawmill 25□. The feedstock and fuel for this plant are sawdust and bark-wood waste (BWW) generated at the Mill.

The initial rated plant capacity (first stage of the project) was 50 thousand tonnes of pellets per year. In May 2008 the output of products began. The investments into the plant totaled EUR 7 million. The main suppliers of the equipment were Andritz and Hekotek companies.

In February 2010 the rated output capacity of the plant (second stage of the project) increased up to 75 thousand tonnes of pellets per year by setting up an additional production line. This required additional investments in the amount of EUR 2.33 million.

Heat demand of the pellet production plant is met by the heat generators installed at the plant itself and by the mini-CHP plant, both of which are running on BWW only. Electricity is supplied from the mini- CHP plant operated by the Sawmill and/or from the external power grid.

Fuel pellet production will make it possible to reclaim up to 180 thousand tonnes of sawdust and BWW per year. Without the project these wastes would have been disposed to the dump causing methane emissions produced from anaerobic decay. The greenhouse gas emission reductions over 2008-2012 are estimated at 101.8 kt CO2e.

The project background

The Sawmill's management first came up with the idea of constructing a pellet production plant in 2004. At the stage of planning, the company's management took into consideration the potential revenues from selling greenhouse gas emission reductions that could be generated by this project. Therefore the project was planned as joint implementation (JI) project in accordance with Article 6 of the Kyoto Protocol. This issue was discussed with the Environmental Investment Centre as early as 2005 [R11] and in 2008 – with CCGS LLC, the company that was finally chosen as a partner for developing all necessary documentation and selling GHG emission reductions in the international market.

The first contract for procurement of equipment for a pellet production plant was signed on June 08, 2007 (the starting date of the project). Actual product output and generation of emission reductions began in May 2008. Officially the construction and installation works under the project with achievement of rated plant capacity of 75 thousand tonnes of pellets per year were fully completed in February 2010.

The total required investments into the project amount to around EUR 9.33 million.

1.4 Determination team

The determination team consists of the following personnel:

George Klenov
Bureau Veritas Certification - Lead Verifier

Vladimir Lukin
Bureau Veritas Certification – Team member, Verifier

Leonid Yaskin
Bureau Veritas Certification – Internal Technical Reviewer

2. METHODOLOGY

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

The determination consisted of the following three phases:

i) desk review of the project design document and the baseline and monitoring plan;
ii) interviews with management and specialists of CJSC Sawmill-25 as the project representatives (July 30th 2010) and CCGS LLC as the PDD developer;
iii) resolution of outstanding issues (ref. to Appendix A Table 5 with CAR's and CL's) and the issuance of the final determination report and opinion.

In order to ensure transparency, a determination protocol was customized for the project, according to the Determination and Verification Manual (DVM).

The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating 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 independent entity will document how a particular requirement has been validated and the result of the determination.

The original determination protocol consists of five tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Appendix A to this report. It consists of four tables. Table 3 for "Baseline and Monitoring Methodologies" is omitted because the project participants established their own baseline and monitoring approach that is in accordance with appendix B of the JI Guidelines and the questions regarding the used methodology are present in Table 2.

Determination Protocol Table 1: Mandatory Requirements			
Requirement	**Reference**	**Conclusion**	**Cross reference**
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** or a **Clarification Request (CL)** of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Determination Report.	Used to refer to the relevant protocol questions in Tables 2, 3 and 4 to show how the specific requirement is validated. This is to ensure a transparent determination process.

Determination Protocol Table 2: Requirements checklist				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 3: Baseline and Monitoring Methodologies				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 4: Legal requirements				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report corrective action and clarifications requests	**Ref. to checklist question in tables 1/2/3/4**	**Summary of project owner response**	**Determination conclusion**
If the conclusions from the Determination are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 1-4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the determination team should be summarized in this section.	This section should summarize the determination team's responses and final conclusions. The conclusions should also be included in Tables 1-4 under "Final Conclusion".

Figure 1 Determination protocol tables

2.1 Review of Documents

The Project Design Document (PDD) version 1.0 dated 15/06/2010 was submitted to Bureau Veritas Certification by CCGS on 16/06/2010. The PDD and additional

background documents related to the project design, baseline, and monitoring plan, i.e. Kyoto Protocol, Host Country Laws, JI guidelines, Guidelines for Users of the Joint Implementation Project Design Document Form for Small-scale Projects and the Form for Submission of Bundled Joint Implementation Small-scale Projects, Provisions for Joint Implementation Small-scale Projects, JISC Guidance on Criteria for Baseline Setting and Monitoring and others were reviewed.

The first deliverable of the document review was the Draft Determination Report (DDR) version 1.0 with CAR's and CL's which was submitted to CCGS on 25/06/2010.

On 20/08/2010, CCGS submitted the amended version of PDD, version 2.0 together with summaries of responses to the verifiers' requests. Having reviewed this feedback, Bureau Veritas Certification issued DDR version 2.0 dated 09/08/2010 with clarifications as to why some of CCGS responses can not be accepted.

0n 08/09/2010 CCGS has submitted their final responses and the completed version 2.1. of PDD dated 08/09/2010 which was accepted by Bureau Veritas Certification.

The determination findings presented in this DDR versions relate to the project as described in the original PDD version 1.0 dated 15/06/2010. The amendments done in the PDD version 2.0 dated 09/08/2010 and version 2.1 dated 08/09/2010 have been taken into account in this Determination Report.

2.2 Follow-up Interviews

Bureau Veritas Certification verification team has conducted interviews with project participants (CJSC Sawmill – 25 project representatives) on 30/07/2010. Series of interviews with PDD developer were conducted as well to confirm selected information and to resolve the issues of concern identified in the document review. Representatives of CJSC Sawmill-25 and CCGS LLC, which were interviewed, are listed in References, Section 6. The main topics of the interviews held are summarized in Table 6.

Table 6 Interview topics

Interviewed organization	Interview topics
CJSC Sawmill-25	➢ Technical project documentation ➢ Project operational and management structure ➢ Operational lifetime of the project ➢ Common practice ➢ Environmental Impact Assessment Documentation ➢ Stakeholders' comments ➢ Training programmes for pellet production plant operators ➢ Project monitoring responsibilities ➢ Monitoring equipments ➢ Quality control and quality assurance procedures
CCGS LLC	➢ History of the project ➢ Implementation schedule ➢ Starting date of the project (the date on which the implementation or construction or real action of the project has begun) ➢ Technical design document ➢ Investment barrier. IRR of the project as per the feasibility study and technical design ➢ Pending issues ➢ Baseline and Project scenarios ➢ Monitoring plan ➢ Barrier analysis ➢ Additionality justification ➢ Common practice analysis ➢ Estimation of the emissions reductions ➢ Estimation of the leakage ➢ Conformity of PDD to JI requirements

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 followed on by the project participants for Bureau Veritas Certification positive conclusion on the project design.

Corrective Actions Requests (CAR) are issued, where:

i) there is a clear deviation concerning the implementation of the project as defined the PDD;

ii) requirements set by the Methodological Procedure or qualifications in a verification opinion have not been met; or
iii) there is a risk that the project would not be able to deliver high quality ERUs.

Clarification Requests (CL) are issued where

iv) additional information is needed to fully clarify an issue.

DDR, version 1.0, summarising Bureau Veritas Certification's findings, was submitted to the project participants on 28 June 2010. Twenty one Corrective Action Requests and four Clarification Requests have been raised. Based on these findings CCGS made necessary amendments and corrections to the PDD version 2.0 and, eventually, the version 2.1 dated 09/08/2010 and 08/09/2010 respectively were issued and submitted to Bureau Veritas Certification for review.

The amendments and corrections made by the project participants to the PDD and the additional information and clarifications provided by them satisfactorily addressed BV Certifications' items of concern and, as a result, the Determination Report version 02 was issued on 14/09/2010. On the same day the Determination Report version 01 and PDD version 2.1 were conveyed to Bureau Veritas Certification Internal Technical Reviewer (ITR) for review.

To guarantee the transparency of the determination process, the CAR's and CL's raised are summarized in Appendix A, Table 5.

3 Determination Findings

In the following sections, the findings of the determination are presented for each determination subject as follows:

i) the findings from the desk review of the original project design document and the findings from interviews during the on-line interviews are summarized. A more detailed record of these findings can be found in the Appendix A Determination Protocol.
ii) where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the determination protocol criteria or the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated in the in Appendix A Determination Protocol.
iii) where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in Appendix A, Table 5.
iv) the conclusions of the determination are presented consecutively.

3.1 Project Design

It is demonstrated in PDD that the project meets all criteria applicable to small-scale (SSC) Projects. The project is eligible as an individual SSC project.

The Sectoral Scopes are identified in the PDD as: (13) Waste handling and disposal. The project activity is referred in PDD to the following type*:

Type III – Other project activities. Category E – Avoidance of methane production from decay of biomass through controlled combustion, gasification or mechanical/thermal treatment.

The project activity meets the small-scale activity criteria, because GHG emission reductions generated by the project are estimated at an average of 20 356 tonnes of CO2e per year, which is within the limit of 60 thousand tonnes of CO2e per year set for small-scale projects.

The project provides reduction of GHG emissions by reducing of biomass disposal to the SWDS.

The outcomes of project activity will be the following effects:

- mitigation of adverse environmental impacts; and
- average reduction of GHG emissions by 20 356 tCO2e/year over the period 2008-2012. Total estimated emission reductions will be equal to 101 779 tCO2e through the crediting period starting in 2008.

The first stage of project involves installation of two pellet production lines with total initial rated plant capacity of 50 thousand tonnes of pellets per year. The second stage of project implementation involves installation of third pellet production line. After its implementation in February 2010, the total rated capacity become equal to 75 thousand tonnes of pellets per year.

The pellet production technology includes the following stages:

From the storage yard the sawdust is loaded into the receiving bunker by a scoop loader and then fed to the sorting unit. After the sorting the sawdust is transported to proportioning bunker equipped with an electrically driven mixer. Then feedstock is fed by dosing screws to a mixing chamber and further to the drum drier.

At the next stage of pellet processing the feedstock is dried with mixture of hot gas generated from BWW combustion and ambient air (drying agent). The dried feedstock is transported from the drying unit to the cyclone dust collector, where it is separated from the waste drying agent.

From the dust collector the sawdust is supplied to the dry sawdust storage bunker and further to the hammer mill, where it is ground to 1 mm fractions. Then the sawdust is treated with the superheated steam and fed to the pressing matrix. The produced pellets after the press are fed to the cooler where the temperature of pellets is reduced down to the ambient temperature sorted and then they are sorted. The off-grade product is returned to the beginning of the process flow. Pellets moisture is less than 10%.

The project design engineering does reflect current good practices. The main project equipment manufacturer Hekotek http://www.hekotek.ee/eng/products/pellet_factories have a substantial track record in the field of wood processing and pellet production

engineering, management and maintenance. The project is professionally managed and the applied technology represents state of the art technique. Hence the substitution of project technology by new one during crediting period was found to be unlikely.

In order to implement the project successfully and to operate the pellet production plant as presumed during the project period, the company was provided with extensive initial training and maintenance efforts as prescribed in the equipment purchasing contact /10/.

The project activity was officially approved by Positive Sate Expertise Conclusion dd. 26/12/2007 /12/.

The project location is defined as Arkhangelsk town. As it was found during site visit and further discussion with PP the production site Maimaksa is the remote district administratively belonging to Arkhangelsk city relevant justification was included into PDD ver. 2.1.

The project boundary was checked during site visit. It was found that the emissions generated embedded heat generators supplying the heat for pellet production process are specifically attributable to proposed activity and shall be included into project boundary. GHG emissions from the heat generators at pellet production plant were considered in the ER calculations. PDD was revised accordingly.

After the relevant discussion it was explicitly demonstrated on the basis of the relevant calculations that N2O and CH4 emissions from biomass combusted at the CHP for heat generation are negligible (less than 1% of total emissions) and hence they were not included into project boundary. Also it was demonstrated by review of Sawmill-25 energy balance /30/ that the power produced by mini CHP is fully consumed by core production needs. Hence it was conservatively assumed that the additional power demands for the pellet production needs may be covered by power import from the grid. Hence the relevance of project boundary identified in PDD ver. 2.1. was confirmed.

The project's starting date is defined in the PDD as the date of equipment procurement contract signature on June 08, 2007 that has been confirmed by relevant documentary evidence /10/ submitted to verifier.

The project implementation schedule was checked and confirmed on the basis of the documentary evidence review. Project idea was elaborated in the 2004 – 2005 when the project was for the first time announced in local press /23/; the project was developed and officially approved in 2007 /09/ /12/; the construction works were undertaken in 2007- 2010 /34/. The test phase for the first stage of project implementation was completed in May 2008 /16/ /17/ and the second stage – in February 2010.

The crediting period is defined from 21/05/2008 till 31/12/2012. The starting date was identified as the date when the first emission reductions were achieved /17/.

Identified areas of concern as to Project Design, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 02, CL 01 and CL 02).

The project has no approvals by the Parties involved, therefore CAR 01 remains pending.

The identified area of concern as to Duration of the project/Crediting period, PP's response and BV Certification's conclusion are summarised in Appendix A Table 5 (refer to CAR 14).

3.2 Baseline and Additionality

The PDD developer has chosen JI specific approach for baseline setting in accordance with paragraph 9 (a) of the Guidance on criteria for baseline setting and monitoring ver. 2.0 /04/. The baseline has been established in accordance with appendix B of the JI guidelines /03/.

The baseline scenario has been identified on the basis of analysis of six alternatives covering all theoretically options for utilization of equal amount of wood wastes. Key factors and relevant national and/or sectoral policies that may affect a baseline have been taken into account.

All Alternatives are in compliance with all mandatory applicable legal and regulatory requirements of the Russian Federation.

On the basis of alternative analysis three alternatives: the uses of wood wastes as the fuel for central CHPP, as feedstock for pulp and paper production and for hydrolyze plant were rejected as technically unfeasible. The use of wood wastes for energy generation at the plant was found unfeasible as the current energy needs are covered by existing facilities – mini CHP and particularly power export from the grid.

Two alternatives continuation of current situation: stockpiling of wood wastes for anaerobic decomposition at the SWDS and project activity not being registered as JI) were left for further analysis. The investment analysis was undertaken to demonstrate that the project activity without JI registration is not economically feasible.

All input values used for investment analysis including total investments, operational costs and benchmark were checked against the independent sources like a equipment procurement contract /10/, loan lending agreement /36/, and publicly available sources referred to in the PDD. All references were checked and found reliable.

The period covered by investment analysis is chosen to be equal to project operation lifetime. The length of equipment lifetime – 15 years was confirmed by information provided by equipment manufacturer /37/.

The proposed approach to additionality demonstration and assessment applies the investment and sensitivity analyses of the project investment activity. The calculations on the spreadsheet annexed to PDD show that the project is not economically attractive without ERU sale.

The baseline scenario assumes continuation of the existing practice of wood waste stockpiling at the SWDS. No legal constraints were found that may constitute any barriers preventing BWW and saw dust dumping at the SWDS operated by Sawmill 25.

Summarizing the alternatives analysis and taking into account the results of the investment, and sensitivity analyses, the continuation of the current situation was chosen as most plausible baseline scenario.

The baseline scenario reflects the "business as usual" as it was demonstrated by the common practice analysis. Particularly it was shown that there are no projects comparable with the proposed activity in terms of technology, scale, and economical environment occurring in the Arkhangelsk region. The analysis of the commonly available sectoral scope review /33/ demonstrates that pellet production business in Russia usually faces some barriers relate to absence of local pellet market, high pellet prices in comparison with traditional fuels and high prices for pellet based energy generation.

The JI status and the relevant revenues from ERU were considered to be the key factor for project realization prior the project implementation start. As it was found during the interview with PP and document review the framework agreement for the PDD development was concluded in 2005 /11/ at the stage of project idea elaboration.

On the basis of the above analysis, the GHG emission reductions generated by the pellet production project at Sawmill-25 are found to be additional to those that might have otherwise occurred.

Identified areas of concern as to Baseline and Additionality, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 03, CAR 04, CAR 05, CAR 06, CAR 07, CAR 08, CAR 09, CAR 10, CAR 11, CAR 12, CAR 13 CAR 15, CL 03 and CL 04).

Identified areas of concern as to Project Duration / Crediting Period, PP's responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CAR 14).

3.3 Monitoring Plan

The PDD developer has chosen JI specific approach for monitoring in accordance with requirements of paragraph 9 (a) of the Guidance on criteria for baseline setting and monitoring /04/ without using any approved methodologies.

Collection of data required for estimation of GHG emission reductions is performed to high industry standard and the best practice of fuel and energy monitoring and environmental impact assessment.

An operational and management structure that the project participant will implement in order to monitor emission reduction is clearly described in the PDD. The on-line interviews with PDD developer confirmed the availability and operationability of this structure.

In order to implement the Monitoring plan the project specific Monitoring procedure /26/ covering all parameters necessary for ER estimation was adopted at Sawmill-25. The company has appointed the person who has overall responsibility for monitoring

plan implementation /28/. The roles and responsibility for the staff involved in the monitoring processes are officially approved by the relevant internal order /27/.

The plant poses all meters and equipment to perform the relevant measurments for all monitoring parameters with low level of uncertainty. The level of uncertainty was confirmed by the review of certificates for meters /22/, /24/, undertaken during site visit.

Quality control procedures include mandatory metering equipment calibration. The calibration records /22/, /29/ were checked on site.

In order to ensure the most conservative approach and default values for emission reduction estimation during whole monitoring period FAR 01 was raised.

Identified area of concern as to Monitoring Plan, PP's response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 15, CAR 16, CAR 17, CAR 18, CAR 19).

3.4 Calculation of GHG Emissions

The formulas used for calculation of baseline and project emissions are presented in PDD Section D. The initial data for calculations and the calculated values are presented in Section D.2 and Section E. The verifiers checked the calculations completed in the PDD version 1.0 and amended PDD version 2.0 and 2.1 and found them accurate.

Implementation of the project will lead to reduction of GHG emissions due to avoidance of methane emissions from biomass wastes anaerobic decomposition at the dump.

The baseline emissions are calculated using the first order decay model (PCF) /39/ developed specifically for estimation of methane emissions generated by sawdust anaerobic decay. The baseline emissions estimated with implication of this model were compared with those resulted from implication of approach delineated in IPCC 2006 /40/ and CDM tool to Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site v.5.0 /41/ and found to be more conservative.

Project emissions are the CO2 emissions generated by the production of power consumed by project at the grid connected power plants and the N2O and CH4 emissions generated by combustion of biomass at the heat generators supplied heat to the pellet production plant.

CO_2 emissions from combustion of biomass are considered to be climatically neutral.

The calculated value of project emission reduction over the crediting period 2008 – 2012 is 101 779 tCO2e. Annual average emission reduction is 20 356 tCO2e/year.

No areas of concern as to Calculation of GHG emissions, were identified.

3.5 Environmental Impacts

There are no significant adverse environmental impacts resulting from implementation of activities within the frameworks of this project.

The project envisages installation of pellet production plant where the wood wastes (BWW and sawdust) will be processed to pellets. The project activity is associated with enhanced air pollutant emissions generated by wood waste combustion in heat generators providing heat for technological needs of pellet production plant and enhanced power consumption from the regional grid.

CO_2 emissions from combustion of biomass are considered to be climatically neutral. The emissions of GHG under the project are assumed negligible and lying within the officially established norms as it was demonstrated in the EIA developed as the part of project design /09/ and officially approved by State expertise conclusion /12/.

The company has received the official permit for air pollutant emissions /13/ valid till 2012. Since the pellet production plant was commissioned the air pollutant emissions have not exceeded the established limits that was confirmed by review of official statistical reporting form /38/.

All documentary evidence were provided to the auditor and reviewed as the part of determination process.

Thus the compliance to local environmental requirements was assured.

Identified area of concern as to Environmental impact assessment, PP's response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 20).

3.6 Comments by Local Stakeholders

The project does not have any significant environmental impacts and has all required by host Party permits.

Positive comments on behalf of local and federal authorities were received in the form of positive opinion /11/ regarding the project activity from the state expert examination.

The project activity was announced in the local press /23/. No comments were received as the feedback.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

Similar to the Verification procedure under the Article 6 Supervisory Committee, Bureau Veritas Certification published the PDD Version 1.0 on BVC site *www.bureau-veritas.ru* on 17.06.2010 and invited comments within the period from 17.06.2010 to 16.07.2010 by Parties, stakeholders and non-governmental organizations.

No comments from third parties have been received.

5 DETERMINATION OPINION

Bureau Veritas Certification has been engaged by Climate Change Global Services (CCGS) to perform a determination of the JI project "Pellet Production from Sawmill Wastes at CJSC — Sawmill 25□, Arkhangelsk, the Russian Federation". The determination was performed on the basis of UNFCCC criteria for SSC JI projects, in particular the verification procedures under the JI Supervisory Committee, as well as host country criteria and the criteria given to provide for consistent project operations, monitoring and reporting.

The determination was carried out under Track 1 as per Glossary of JI terms, in line with paragraph 23 of the JI guidelines.

The determination is based on the information made available to us and on the engagement conditions detailed in this report. The determination has been performed using a risk-based approach as described above. The only purpose of the report is its use for the formal approval of the project under JI mechanism. Hence, Bureau Veritas Certification cannot be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

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 on-line interviews with project stakeholders and PDD developer; iii) the issuance of the determination report, and iv) opinion.

The review of the project design documentation, the subsequent follow-up interviews, and the resolution of the Corrective Action Requests and Clarification Request have provided Bureau Veritas Certification with the sufficient evidences to determine the fulfilment of the above stated criteria and to demonstrate that the project is additional.
An analysis of the investments demonstrates that the proposed project activity is not a likely 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 it is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The determination revealed one 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 (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 2.1 dated

08/09/2010 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

Bureau Veritas Certification thus recommends this project for the formal approval by the Russian Federation as the JI project in accordance with the RF Government Decree N 843 dated 28/10/2009.

Bureau Veritas Certification Holding SAS
16 September 2010

Flavio Gomes – BVC Operational Manager

George Klenov – Team leader, Lead verifier

REFERENCES

Reviewed document or Type of Information referred to in Appendix A

1	PDD "Pellet Production from Sawmill Wastes at CJSC "Sawmill 25", Arkhangelsk the Russian Federation", a/ Version 1.0, dd. 05/05/2010, b/ version 2.0, dd. 20/08/2010, c/ version 2.1, dd. 08/09/2010. Excel spreadsheets: "SM25_calc model final ver. 2.1.xls", "SM25_economics.xls"
2	Guidelines for Users of the Joint Implementation Project Design Document Form. Version 04, JISC.
3	JI Guidelines. Annex to decision 9/CMP.1.
4	JISC Guidance on criteria for baseline setting and monitoring. Version 02.
5	Tool for the demonstration and assessment of additionality, Version 05.2.
6	General scheme for allocation of power objects up to 2020, approved by the RF government order # 215-p dated 22/02/2008.
7	RF Urban Development Code N 190-ФЗ (Federal Law).
8	"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".

9	Project "Wood Pellet Production Shop", Arkhangelsk, 2007, "Explanatory Note" Paragraph #1 "General description" and #8 "Environmental Protection".
10	Contract No643 dd.08/06/2007 "Procurement of equipment for a pellet production plant from sawmill wastes".
11	The Minutes Of Deliberations between local non-profit organization "Environmental Investment Center" and CJSC "sawmill-25" regarding implementation of project aimed, dated 21/04/2005.
12	State Expertise Conclusion (Positive) on the Project "Wood Pellet Production Shop" No 29-1-4-0321-07 approved on 26/12/2007.
13	The Permit on Air Pollutant Emissions No.11-28/01-22 dd.18/03/2010 valid till 19/03/2012
14	Letter on permission of air pollutant emissions #11-18/2008 dd. 16/03/2010.
15	Order No514 dd.20/12/2007 On appointment of responsible person for JI project implementation
16	Order No270 dd.05/05/2008 On the beginning of start-up and testing of wood pellet production shop
17	Order No329 dd.21/05/2008 On the checking of preparedness to comissionning of wood pellet production shop
18	Certificate dd. 31/05/2008 on the pellet production in May'08
19	The datasheet on the pellet production in March'09
20	The report "Energy Survey of main equipment of pellet production shop undertaken to determine its technical and economical and environmental characteristics. Executed by Arkhangelsk State Technical University, 2008
21	Sazanov B. Sytas V. Thermal and Energy systems in industrial enterprises, 1990
22	Certificate on track weights TsKV-10 T with the last calibration record on 18/06/2010.
23	Project announcement in local newspaper "Volna" #49-50 dd. 26/12/2005
24	Test Certificate for moisture meter Precissa XM 10 SE ser. # 3300-500 dd. 10/06/2008.
25	Monthly data for GHG emission reduction monitoring of JI project "The Pellet production from wood processing wastes in JSC Sawmill-25" fo 2008 and 2009.
26	The GHG emission reduction monitoring procedure for JI project "The Pellet production from wood processing wastes in JSC Sawmill-25"
27	Order # 729 dd. 11/12/2008 On execution of GHG emission reduction monitoring
28	Order # 153 dd. 30/03/2010 On the appointment of responsible persons for JI project implementation
29	Calibration certificate # 11-445-05 dd. 18/05/2010 for moisture testing weights Precissa XM 10 SE ser. # 19501478 valid till 18/05/2011
30	Information note on power depletion on Maimaksa production site JSC Sawmill

	25 for 2008, 2009 and the 1st half of 2010.
31	Informational note for planned economical features used for adoption of the decision to execute construction of pellet production plant dd. 23/10/2008.
32	Reference book on wood drying, 4th edition, ed. E. Bogdanov – Moscow, 1990.
33	On the features of biofuel sector development in Russia in 2001-2005. http://www.proles.ru/news/news_read.php?n=5
34	Contract No676 dd.27/11/2007 On installation works of the equipment
35	S.I.Golovkov, I.F.Koperin, V.I.Naidyonov. Wood Wastes-to-Energy. – M.: Forest Industry, 1987
36	Loan lending agreement #001/0982L/07 with CJSC "International Moscow Bank" dd. 15/10/2007
37	The letter from AS Hekotek dd. 17/08/2010 signed by Wood Pellet Project Coordinator Mr. Alary Rossy on the astimated equipment lifetime
38	State statistical reporting form 2-tp "air" for 2009.
39	Methane and nitrous oxide emissions from biomass waste stockpiles Prepared for PCFplus Research by Biomass Technology Group BV, PCFplus Report 12 Washington DC, August 2002
40	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 3: Solid Waste Disposal
41	Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site, v. 5.0 http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-04-v5.pdf

Persons interviewed:

1	Alexander V. Samorodov, CCGS, Director.
2	Vladimir Dyachkov , CCGS, specialist, PDD-writer.
3	Mrs. Krasilnikova E. Sawmill-25 Financial director
4	Mr. Vashuta V.F. –Sawmill-25 the Head of granulation shop

DISCLAIMER

This report contains the results of the determination of whether the project under consideration meets the relevant requirements of Article 6 of the Kyoto Protocol and the JI guidelines. The used determination procedure does not fall under the verification procedure under the JISC, as defined in the JI guidelines, paragraphs 30–45. Instead, paragraph 23 of the JI guidelines apples to the determination based on which Bureau Veritas Certification Holding SAS issues, under the contractual arrangements with CCGS, an expert opinion on the project as per 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".