DETERMINATION REPORT

OJSC "SHCHUROVSKY CEMENT"

Determination Report on JI Project
"SWITCH FROM WET TO DRY PROCESS AT OJSC "SHCHUROVSKY CEMENT", RUSSIA"

BUREAU VERITAS CERTIFICATION

REPORT NO. RUSSIA/0028-2/2009, REV. 01

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Determination Report on JI project "Switch from wet to dry process at OJSC "Shchurovsky Cement", Russia"

Date of first issue: 30/09/2009	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Global Carbon B.V.	Client ref.: Ms Nina Korobova

Summary:

Bureau Veritas Certification has made the determination of the project "Switch from wet to dry process at OJSC "Shchurovsky Cement", Russia", 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 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 methodology and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.: RUSSIA/0029-2/2009	Subject Group: JI
Project title: "Switch from wet to dry process at OJSC "Shchurovsky Cement", Russia"	
Work carried out by: Flavio Gomes – Team leader, Lead verifier Vera Skitina - Team member, verifier Leonid Yaskin – Team member, verifier	
Work verified by: Ivan Sokolov - Internal reviewer	

Date of this revision:	Rev. No.:	Number of pages:
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Indexing terms:

Climate Change, Kyoto Protocol, JI, Emission Reductions, Verification,

Abbreviations

AIE	Accredited Independent Entity
BV	Bureau Veritas
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 of 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
RES	Regional Electricity System
tCO2e	Tonnes CO2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change

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1 Introduction

OJSC "Shchurovsky Cement" has commissioned Bureau Veritas Certification to determine its JI project "Switch from wet to dry process at OJSC "Shchurovsky Cement", Russia" (hereafter called "the project") located in the city of Podolsk, Moscow Region, Russian Federation. Global Carbon Rus LLC (hereafter called Global Carbon) being the PDD developer coordinates the project and the determination process on behalf of the project participant OJSC "Shchurovsky Cement".

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 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 9/CMP.1), 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 OJSC "Shchurovsky cement" and Global Carbon. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 GHG Project Description

The cement plant of OJSC "Shchurovsky Cement" (hereinafter referred to as "Shchurovsky Cement") is the first cement plant in Russia. It is located in the Central part of Russia in Kolomna town. The production started in 1870. The first white cement production line was launched in 1952. A new rotary kiln with an annual production capacity of about 650,000 tonnes of grey cement was built in 1975 and one year later another kiln

was built with an annual capacity of about 650,000 tonnes of grey cement. Presently, the Shchurovsky Cement plant has a grey cement production line with a maximum technical production capacity of about 1.3 million tonnes per year and a white cement production line.

Cement production is a highly energy intensive process generating significant emissions of greenhouse gases (GHGs), in particular CO_2. There are three main sources of CO_2 emissions in the cement production process. The first source is the chemical decomposition of limestone into calcium oxide and carbon dioxide. The second source is the fossil fuel combustion. The third source, being smaller in comparison with the first two, is the electricity consumption of the plant's motor drives (e.g. for kiln rotation, pumping, ventilation) and other electrical equipment.

Project purpose
The goal of this proposed Joint Implementation (JI) project is to use a more energy efficient dry production process and thus significantly reduce the emissions associated with the grey cement production line as well as increase the grey cement production capacity at the Shchurovsky Cement plant.

Current status
Shchurovsky Cement plant has two wet kilns. The average specific energy consumption from fossil fuel combustion is 5,931 MJ per tonne of clinker (situation prior to the project start). The present production volume of grey cement is about 1.1 million tonnes per year. Limestone, clay and additives are crushed and mixed in the raw mill during the raw material preparation stage. In the case of wet cement technology water is added to the raw mill along with the raw materials in order to produce slurry. The slurry is further homogenized and fed to the rotary kiln. At the point of the kiln inlet, at the drying zone, water is evaporated from the slurry, and the raw materials are moved further into the kiln to be calcinated and burnt into clinker. Evaporation of water from wet slurry consumes significant amounts of energy.

These two existing wet kilns were constructed in 1975-1976 and can be operated at least until 2020.

Currently natural gas is being used as fuel at Shchurovsky Cement plant. It is typical fuel at the Russian cement plants excluding cement plants in Siberia because it is cheaper and cleaner than heavy oil fuel and coal. In future natural gas can be more expensive and many Russian facilities (including cement plants) plan to shift to coal. Shchurovsky Cement also intends to shift to coal in the second quarter 2010.

The wet cement production technology is the conventional technology of cement production in Russia, while the dry production technology has a very limited number of applications in the country. In 2007 there are only 30 (17%) dry kilns out of 177 total kilns in Russia as a whole and only nine (13%) dry kilns out of 67 kilns are located in the Central part of Russia. All kilns were constructed before 1992 and some of them were renovated during 1970-2000. Only three new kilns were constructed in Russia since 1992:

- in the Central part of Russia: one kiln at Mordovcement (2008, dry);

- in the Ural region: two kilns at JSC "Soda" (2007, dry) and at Magnitogorsky cement plant (2007, wet).

In the Central part of Russia average distance of cement transportation is less than 500 km. This means that changes in cement production at one plant will not impact the production at another cement plant located at 1000 km. There are 19 cements plants located within 1000 km from the project site.

Project scenario
Shchurovsky Cement plans to modernize the grey cement production line. The expected commissioning date is 01 October 2010 (third quarter 2010). According to the modernization program the wet cement production process will be fully replaced by a dry cement production process. The main benefit of the dry cement production process is the decreased fuel consumption in comparison with the wet cement production process and therefore a reduction of CO_2 emissions. For the dry cement production process the average specific energy consumption amounts to 3,600 MJ per tonne of clinker produced. The expected production volume of grey cement will be approximately 2.1 million tonnes per year. Coal will be used as main fuel and natural gas will be used for additives drying and heat production only.

Baseline scenario
The project will result in an additional production of approximately 0.8 million tonnes of grey cement per year (expected production of 2.1 million tonnes per year minus maximum possible production at existing lines of 1.3 million tonnes per year). If the project was not implemented, the market demand would be covered by other cement manufacturers, which can increase cement production at the existing capacity by increasing the number of run-days and decreasing the duration of stops, would be covered by installing new capacities. Thus CO_2 emissions in the baseline scenario would consist of the existing capacity emissions and incremental capacity emissions. The emissions of incremental capacity are calculated based on the assumption that the incremental cement volume would be produced by other cement producers. The incremental capacity emissions are determined taking into account the principles of the Combined Margin approach which was firstly introduced in the approved CDM tool "Tool to calculate the emission factor for an electricity system" (version 01.1).

Project background
Holcim (hereinafter referred to as "Holcim"), the corporate of Shchurovsky Cement, has decided to conduct a feasibility study on the new dry cement production line at Shchurovsky Cement in 2006. This study was prepared at the beginning of 2007. In April 2007 Holcim decided to switch from wet to dry grey cement production. Holcim also started looking for a JI project developer for this project in mid-2007. It contacted Global Carbon BV for this purpose in July 2007 and Shchurovsky Cement concluded a contract in August 2008.

Project implementation became possible due to Joint Implementation (JI) mechanism under the Kyoto Protocol. The revenue from sales of the emission reduction units (ERU) increases the investment attractiveness of this project.

1.4 Determination team

The determination team consists of the following personnel:

Flavio Gomes
Bureau Veritas Certification - Team Leader, Lead verifier

Vera Skitina
Bureau Veritas Certification - Team member, verifier

Leonid Yaskin
Bureau Veritas Certification – Team member, verifier

Ivan Sokolov
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) on-site assessment on 27/08/2009 and on-line interactions with PDD developer throughout the determination process;
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 (IETA/PCF).

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 because the questions regarding the used approach are presented 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

Bureau Veritas Certification signed the contract with OJSC "Shchurovsky Cement" on 16/07/2009 and received from Global Carbon on 23/07/2009 the Project Design Document (PDD) Version 1.5 dated 05/06/2009 together with supporting documentation. PDD was at once published on Bureau Veritas Certification site for public comments as from 17/07/2009 to 15/08/2009. The PDD was made available for public on UNFCCC JI site from 01 September 2009 to 30 September 2009.

The PDD and supporting documentation as well as additional background documents related to the project design, baseline, and monitoring plan, such as Kyoto Protocol, host Country laws, Guidelines for users of the JI PDD Form, Guidance on criteria for baseline setting and monitoring, and Tool for the demonstration and assessment of additionality were reviewed.

The first deliverable of the document review was the Draft Determination Report (DDR) version 01 dated 15/08/2008 with 15 CAR's followed by DDR version 02 dated 18/08/2009 with 16 CAR's including the new CAR 04. Following the project site visit, DDR version 03 dated 03/09/2009 with 17 CAR's including the new CAR 08 was issued.

On 23/09/2009, Global Carbon submitted the amended PDD Version 3.2 dated 23/09/2009 with the summaries of responses to the CAR's. Having reviewed this feedback, Bureau

Veritas Certification issued DDR version 04 dated 23/09/2009 with clarifications as to why some of Global Carbon responses can not be accepted.

On 25/09/2009, the final PDD version 3.2 dated 25/09/2009 was submitted by Global Carbon in response to the DDR version 04. This PDD was reviewed and observed as appropriate.

No comments on the PDD were received during the public review period.

The determination findings presented in this Determination Report version 01 relate to the project as described in the original PDD version 1.5 dated 05/06/2009 and the final PDD version 3.2 dated 25/09/2009.

2.2 Follow-up Interviews

Bureau Veritas Certification verifier Vera Skitina conducted a visit to the project site on 27/08/2009. On-site interviews with the project participant and Global Carbon were conducted to confirm the selected information and to resolve issues identified in the document review. The interview topics are listed in Table 6. The interviewees are listed in Section 6 References.

Following the submission of the DDR version 04, on-line interactions between Global Carbon and Bureau Veritas Certification too place on 23-25/09/2009 to resolve pending CAR's.

Table 6 Interview topics

Date / Interviewed organization	Interview topics
27/08/2009 OJSC "Shchurovsky Cement" & Global Carbon	➢ Holcim business plan for OJSC "Shchurovsky Cement" ➢ Project management organisation ➢ Implementation schedule ➢ Technical documentation ➢ Baseline scenario ➢ Project scenario ➢ Investment analysis ➢ Monitoring plan and procedures ➢ Permits and licenses ➢ Environmental Impact Assessment ➢ QC & QA procedures

23-25/09/2009 Global Carbon	➢ RES emission factors ➢ Deviation from the Additionality Tool ➢ Justification of conservative assumptions ➢ Estimation of operational margin for incremental part ➢ Coal Low heating Value

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. No CL's are issued for this project.

The DDR version 03 summarising Bureau Veritas Certification's findings of the desk document review and on-site assessment was submitted to Global Carbon on 03/09/2009. The findings identified have been 17 Corrective Action Requests. No Clarification Requests were issued.

In response to these findings, Global Carbon made necessary amendments and corrections to the PDD Version 1.5 and issued the PDD Version 3.2 dated 23/09/2009. Some issues, in particular those concerning the grid emission factors and the deviation from the Additionality Tool needed further elaboration by Global Carbon. These points of concern were reported in the DDR version 04 dated 23/09/2009. In response, following on-line communications between Global Carbon and the verifiers, the final PDD Version 3.2 dated 25/09/09 was submitted.

The amendments, additions and corrections made by Global Carbon to the PDD and the additional information and clarifications provided by them satisfactorily addressed the verifiers' areas of concern. As a result, the Determination Report version 01 was issued on 30/09/2009 after 17:00 GMT and at once sent, together with PDD Version 3.2, to BVC Internal Technical Reviewer (ITR) for review.

To guarantee the transparency of the determination process, the CAR'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 site visit 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 represented a risk to the fulfillment of the determination protocol criteria or the project objectives, a Corrective Action Request has been issued. The Corrective Action Requests are stated in the in Appendix A Determination Protocol.
iii) where 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

The project uses the state-of-art technology. It envisages a full modernization of the grey cement production line at OJSC "Shchurovsky Cement" by the switch of the production process from wet to dry method. This will result in the decrease of the specific energy consumption and hence in GHG emission reduction.

The share of dry cement production in Russia is below 20%. In the Central Federal Okrug of the Russian Federation, which includes 16 regions including the Moscow region where the project is located, there were no dry kilns constructed since 60th onward.

According to the modernization programme, the two existing wet kilns with total capacity of 1.3 million tonnes of cement per year are dismantled to be replaced by the new dry kiln with the capacity of 2.1 million tonnes. Thus, the project provides the surplus production of 0.8 million tonnes per year.

The project will provide the reduction of GHG emissions by 734 894 tCO2e over the crediting period 2010-2012.

The identified area of concern as to Project Design, PP's response and BV Certification's conclusion is described in Appendix A Table 5 (refer to CAR 02).

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

3.2 Baseline and Additionality

The baseline is set on the basis of a JI specific approach in accordance with appendix B of JI guidelines and the JISC guidance on criteria for baseline setting and monitoring .

Seven different scenarios were considered, each providing the project capacity of 2.1 million tons of cement per year. After the screening, two the most practicable alternatives left:

- the project without JI registration,

- the combined scenario assuming the continuation of business as usual with the output of 1.3 million tonnes (replacement production) and the surplus production of 0.8 million tonnes at 19 cement plants located within 1000 km from the project site (incremental production).

The first alternative was proven to be not financially and economically feasible. This follows from the investment analysis carried out in the frame of the additionality proof. The second alternative is reasonably taken as the baseline scenario as the most realistic and credible. Both scenarios are not prohibited by the Russian legislation.

To prove the project additionality the CDM Methodological "Tool for the demonstration and assessment of additionality" (Version 05.2) was applied. Its three steps, namely identification of alternatives to the project activity, investment analysis, and common practice analysis were carried out. The key additionality proofs were the results of the benchmark and sensitivity analyses. All the input data for the financial analysis were not presented in the PDD as required by the Tool. Instead the spreadsheet with the analysis was made available for the verifiers, and Bureau Veritas Certification will submit it to JISC at the final determination as the supporting documentation.

The 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).

3.3 Monitoring Plan

The monitoring plan is defined on the basis of a JI specific approach in accordance with Appendix B of the JI guidelines.

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

The baseline emissions for the incremental production are estimated/calculated using the combined margin emission factors defined by the approach similar to that described in the CDM Methodological "Tool to calculate the emission factor for an electricity system" (Version 01.1). Initial data for the 19 incremental cement plants are taken from OJSC "NIICEMENT".

The electric grid emission factors for 4 RES concerned were taken from the Study "Development of grid GHG emission factors for power systems of Russia. Part 1" commissioned by Carbon Trade & Finance in 2008 and verified by Bureau Veritas Certification.

An operational and management structure that the project participant will implement in order to monitor emission reduction is clearly described in the PDD. Monitoring related quality control and quality assurance procedures are backed up by the Quality Management Systems certified to ISO 9001.

The identified areas of concern as to Monitoring Plan, PP's response and BV Certification's conclusion is described in Appendix A Table 5 (refer to CAR 12, CAR 13, CAR 14, CAR 15, CAR 16).

3.4 Calculation of GHG Emissions

The formulae used for calculation of baseline and project emissions are presented in PDD Section D and Annex 2. The initial data for calculations and the calculations as such are presented on the spreadsheets made available to Bureau Veritas Certification. The results are summarised in Section E. The verifiers checked the calculations and found them accurate.

The calculated amount of project emission reduction over the crediting period 2010 - 2012 is 734 894 tCO2e. The annual average emission reduction is 326 620 tCO2e.

No areas of concern were identified as to Calculation of GHG Emissions.

3.5 Environmental Impacts

The project has all permissions, limits and license required by the Russian environmental legislation for the stage of technical design and construction. The evidence is presented in PDD Section F and by the list of documents obtained by the verifier at the site visit (refer to Section 6 References).

The identified area of concern as to Environmental Impacts, PP's response and BV Certification's conclusion is described in Appendix A Table 5 (refer to CAR 17).

3.6 Comments by Local Stakeholders

No comments from local stakeholders were received.

No areas of concern as to Comments by Local Stakeholders are identified.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

In accordance with the Section E "Verification procedure under the Article 6 Supervisory Committee" of the JI guidelines, Bureau Veritas Certification published the PDD Version 1.5 on UNFCCC JI site on 01.09.2009 and invited comments within 30.09.2009 by Parties, stakeholders and UNFCCC accredited observers. No comments from parties have been received.

5 DETERMINATION OPINION

Bureau Veritas Certification has been engaged by OJSC "Shchurovsky Cement" to perform a determination of the JI project "Switch from wet to dry process at OJSC "Shchurovsky Cement", Russia" The determination was performed on the basis of UNFCCC criteria for 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 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 the project participant and PDD developer; iii) the issuance of the determination report and opinion.

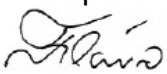
The review of the project design documentation, the subsequent follow-up interviews, and the resolution of the Corrective Action Requests have provided Bureau Veritas Certification with the sufficient evidences to determine the fulfilment of the above stated criteria and to demonstrate that the project is additional.

An investment and barriers analyses demonstrate 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 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 (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 3.2 dated 25/09/2009 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 332 dated 28/05/2007.

Bureau Veritas Certification Holding SAS
30 September 2009



Flavio Gomes – Lead Verifier

Vera Skitina - Verifier

Leonid Yaskin - Verifier

6 REFERENCES

Reviewed document or Type of Information referred to in Appendix A

1	"Switch from wet to dry process at OJSC "Shchurovsky Cement", Russia", dated 05/06/2009.
2	Guidelines for Users of the Joint Implementation Project Design Document Form/Version 03, JISC.
3	Guidance on criteria for baseline setting and monitoring/Version 01, JISC.
4	Tool for demonstration and assessment of additionality, Version 05.2, Methodological Tool, CDM Executive board.
5	Tool to calculate baseline, project and/or leakage emissions from electricity consumption, Version01, CDM Executive board.
6	RF Urban Development Code N 190-ФЗ (Federal Law).
7	On approval of methodological instructions for examination of project documentation. Order by the Ministry of Economic Development and Trade of the RF, dated 20 December 2007, N 444.
8	RF Government Decree No. 332, dated 28 May 2007, Procedure For Approval And Verification of Status of Projects Carried Out In Accordance With Article 6 Of The Kyoto Protocol to The United Nations Framework Convention On Climate Change.

Document or Type of Information obtained at the site visit
References in Appendix A are underlined

1	Normative of maximum permissible emission in CJSC "Shchurovsky Cement", 23/08/2006.
2	Normative of maximum permissible emission in CJSC "Shchurovsky Cement" (Prioksky opencast), 2007.
3	State ecological annual statistic forms: 2-tp (air) for 2008 of CJSC "Shchurovsky Cement"
4	License for the right to use the subsoil granted to CJSC "Shchurovsky Cement" by State Territorial Direction of natural resources for Moscow region. Expiry date is 2010.
5	License for the right to use and working of the dangerous industrial objects granted to CJSC "Schurovsky Cement" by Territorial Direction of Rostekhnadzor dated 18.08.04.
6	Permits for Air Emissions # 635 dated 12/12/2007 and #89 dated 18/09/2007 granted to CJSC "Schurovsky Cement" by Territorial Direction of Rostekhnadzor.
7	License for the right to refuse collection, handling, transportation, and territorial distribution of dangerous industrial waste granted to CJSC "Shchurovsky Cement" by Territorial Direction of Rostekhnadzor dated 10.04.09.
8	Normative of maximum permissible industrial dangerous waste to be produced at CJSC "Shchurovsky Cement", 23/08/2006.granted to CJSC "Shchurovsky Cement" by Territorial Direction of Rostekhnadzor dated 10.04.09 (Annex to the License for the right to refuse collection, handling, transportation, and territorial distribution of dangerous industrial dated 10.04.09).
9	License for the water usage granted to CJSC "Shchurovsky Cement" by State Territorial Direction of natural resources for Moscow region. Expiry date is 15.02.2011.

10	Permit for the oil storage granted to CJSC "Shchurovsky Cement" by State Territorial Direction of energy saving & energy efficiency for Moscow region. Expiry date is 21.05.2010.
11	Production Data for calculation of raw mix at CJSC "Schurovsky Cement" dated June, 2007, June 2008.
12	Daily Weekly Operation Report at CJSC "Schurovsky Cement" dated 26.08.09.
13	Unit Daily Operation Report at CJSC "Schurovsky Cement" dated 15.08.09.
14	Production Data for Quality of Portland Cement for the year 2009 at CJSC "Schurovsky Cement".
15	Production Data for 2005-2008 at CJSC "Schurovsky Cement" dated 26.08.09.
16	Raw Materials humidity data at CJSC "Schurovsky Cement" for the year 2008.
17	Quality certificate for natural gas dated January 2006
18	Data for calculation of CO2 emission reduction at CJSC "Schurovsky Cement". Information letter of CJSC "Schurovsky Cement" dated 01.04.07.
19	Annex "Environmental impact evaluation" to the Modernization Project documentation.

Persons interviewed:

1	A. Urin, Deputy Health Safety & Environmental Director CJSC "Schurovsky Cement".
2	R. Ivanova, Specialist.
3	N. Ivanov, Specialist.
4	M. Kulkova, Engineer, Health Safety & Environmental Department CJSC "Schurovsky Cement".
5	V. Ignatova, Safety Engineer CJSC "Schurovsky Cement".
6	I. Rozenbaum, Financial Controlling Specialist, CJSC "Schurovsky Cement".
7	A. Ivanov, Project coordinator, Senior Engineer, CJSC "Schurovsky Cement".
8	A. Kozinetz, Chief Technologist, CJSC "Schurovsky Cement".
9	O. Belyaevskaya, Planner Coordinator, Engineer, CJSC "Schurovsky Cement".
10	V. Besrukaviy, Chief Electrical Engineer, CJSC "Schurovsky Cement".
11	A. Varfolomeev, Senior Consultant, Global Carbon Rus LLC.
12	S. Papkov, Consultant, Global Carbon Rus LLC.
13	N. Korobova, Director, Global Carbon Rus LLC.

APPENDIX A: COMPANY JI PROJECT DETERMINATION PROTOCOL

Table 1 Mandatory Requirements for Joint Implementation (JI) Project Activities

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
1. The project shall have the approval of the Parties involved.	Kyoto Protocol Article 6.1 (a)	**CAR 01**. The project has no approval of the Host Party. Verifiers' Note: JISC Glossary of JI terms/Version 01 defines the following: a) At least the written project approval(s) by the host Party(ies) should be provided to the AIE and made available to the secretariat by the AIE when submitting the determination report regarding the PDD for publication in accordance with paragraph 34 of the JI guidelines;	Table 2, Section A.5.

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		(b) At least one written project approval by a Party involved in the JI project, other than the host Party(ies), 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, at the latest.	
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur.	Kyoto Protocol Article 6.1 (b)	OK	Table 2, Section B.2
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7.	Kyoto Protocol Article 6.1 (c)	OK	N/A
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3.	Kyoto Protocol Article 6.1 (d)	OK	N/A
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects.	Marrakech Accords, JI Modalities, §20	OK	The Russian national focal point is the Ministry of

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
			Economic Development. The Russian national guidelines and procedures are established by the RF Government Decree N 332 dated 28/05/07 and by RF Ministry of Economic Development and Trade Order N 444 dated 20/12/07.
6. The host Party shall be a Party to the Kyoto Protocol.	Marrakech Accords, JI Modalities, §21(a)/24	OK	Russia has ratified the Kyoto Protocol by Federal Law N 128-ФЗ dated 04/11/04.
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts.	Marrakech Accords, JI Modalities, §21(b)/24	OK	The Russian Federation's assigned amount has been calculated and recorded In the 4th National

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
			Communication dated 12/10/06.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4.	Marrakech Accords, JI Modalities, §21(d)/24	OK	Russian Federation has established the GHG Registry by the RF Government Decree N 215-p dated 20/02/06.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination.	Marrakech Accords, JI Modalities, §31	OK	Global Carbon Rus LLC has submitted a PDD to Bureau Veritas Certification, which contains all information needed for determination.
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments.	Marrakech Accords, JI Modalities, §32	OK	The PDD was made publicly available for comments on UNFCCC JI site from 01 to 30 September 2009.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by	Marrakech Accords, JI Modalities,	OK	Table 2, Section F

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the host Party, an environmental impact assessment in accordance with procedures as required by the host Party shall be carried out.	§33(d)		
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan.	Marrakech Accords, JI Modalities, §33(c)	OK	Table 2, Section D
16. A project participant may be: (a) A Party involved in the JI project; or (b) A legal entity authorized by a Party involved	JISC "Modalities of communication of	The Russian project participant will be	Table 2, Section A

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
to participate in the JI project.	Project Participants with the JISC" Version 01, Clause A.3	authorized by the Host Party through the issuance of the approval for the project. Conclusion is pending a follow-up on CAR 01. Refer to Verifiers' Note in 1 above.	

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of the project					
A.1 Title of the project					
A.1.1. Is the title of the project presented?	1,2	DR	The title of the project is: "Switch from wet to dry process at OJSC "Shchurovsky Cement", Russia". The indicated Sectoral Scope is (4) Manufacturing industries.		OK
A.1.2. Is the current version number of the document presented?	1,2	DR	The PDD Version 1.5		OK
A.1.3. Is the date when the document was completed presented?	1,2	DR	PDD Version 1.5 dated 05.06.2009.		OK

A.2. Description of the project					
A.2.1. Is the purpose of the project included?	1,2	DR I	This Project is aimed to use a more energy efficient dry production process and thus significantly reduce the emissions associated with grey cement production line as well as increase the grey cement production capacity at the Shchurovsky Cement plant. The baseline scenario is explained in sufficient details. The project will result in additional production of approximately 0.8 million tones of grey cement per year. Under the baseline scenario the existing cement production lines would be kept (replacement production) and third Party producers would satisfy cement demand in amount of 0.8 million tones of grey cement per year instead (incremental production). The project scenario envisages the replacement of the wet cement production process by a dry cement production process according to the modernization program. One new dry process kiln with a capacity of 5,500 t clinker/day will be installed, the two existing wet kilns will be dismantled. The technical production capacity of the new dry installation will be approximately 2.1 million tones of grey		OK

			cement per year. The situation existing prior to the starting date of the project and the overall history are summarised.		
A.2.2. Is it explained how the proposed project reduces greenhouse gas emissions?	1,2	DR	There are three main sources of GHG emissions at the plant: - chemical decomposition of limestone into calcium oxide and carbon dioxide; - fossil fuel combustion; - electricity consumption by the plant's motor driver's and other electrical equipment. GHG emissions are essentially reduced due to a reduction of the kilns fuel consumption due to introduction of a new dry kiln with enhanced efficiency. The project significantly reduces emissions associated with the grey cement production line.		OK
A.3. Project participants					
A.3.1. Are project participants and Party(ies) involved in the project listed?	1,2	DR	**CAR 02.** There is the ambiguity as to OJSC "Alfa Cement" which is indicated as the project participant in PDD Section A.3 and is missed in PDD Annex 1. Party A is the Russian Federation. Party B is	CAR 02	OK

			the Netherlands.		
A.3.2. The data of the project participants are presented in tabular format?	1,2	DR	The data is presented in the tabular format as per [2].		OK
A.3.3. Is contact information provided in Annex 1 of the PDD?	1,2	DR	The contact information is provided in PDD Annex 1. Conclusion is pending a response to CAR 02	Pending	OK
A.3.4. Is it indicated, if it is the case, if the Party involved is a host Party?	1,2	DR	It is indicated that the Russian Federation is the host Party.		OK
A.4. Technical description of the project					
A.4.1. Location of the project activity					
A.4.1.1. Host Party(ies)	1,2	DR	The Russian Federation is indicated as the host Party in PDD Section A.3.		OK
A.4.1.2. Region/State/Province etc.	1,2	DR	The Moscow region, Russian Federation.		OK
A.4.1.3. City/Town/Community etc.	1,2	DR	The town of Kolomna, Moscow region.		OK
A.4.1.4. Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	1,2	DR	The unique identification is given by the following information: at the southeast outskirts of Kolomna town. The site coordinates are: 55^0 4' 46'' N, 38^0 46' 42'' E.		OK
A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the project					
A.4.2.1. Does the project design engineering reflect current good practices?	1,2	DR, I	The use of the dry cement production process presents a current good practice.		OK

A.4.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1,2	DR I	The dry cement production process is the state of the art cement production technology, which is not spread in the Russian Federation. In Russia the majority of kilns at cement plants were constructed before 1988 (86% of cement production) using the wet method which is the predominant technology in Russia still.		OK
A.4.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,2	DR I	The project technology is unlikely to be substituted by other or more efficient technologies within the project period.		OK
A.4.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1,2	DR, I	The project requires extensive initial training and maintenance efforts in order to work as presumed during the project period.		OK
A.4.2.5. Does the project make provisions for meeting training and maintenance needs?	1,2	DR	The project generates both direct and indirect local employment. About 700 additional workers are would be involved in the new cement line construction activity during 24 months. Provisions for meeting training and maintenance needs are outlined in PDD Section A.2.		OK
A.4.3. Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the					

absence of the proposed project, taking into account national and/or sectoral policies and circumstances					
A.4.3.1. Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	1,2	DR	The explanation is given in Section A.4.3 as follows. Under the project, emissions of CO_2 will be significantly reduced due to the reduction of the kiln fuel consumption because of the introduction of a dry kiln with enhanced efficiency. The project will result in additional production of approximately 0.8 million tones of grey cement per year. The existed two kilns (for the wet process) will be dismantled; a new dry kiln and additional equipment (for the dry production process) will be installed instead. Under the baseline scenario, the existing cement production lines would be kept (replacement production) and third Party producers would satisfy cement demand instead (incremental production). The realization of the Project will lead to a significant reduction of the kiln fuel consumption. In turn, this will result in a reduction of CO_2 emissions due to using of the state of the art cement production technology.		OK

A.4.3.2. Is it provided the estimation of emission reductions over the crediting period?	1,2	DR	The estimated GHG emission reduction is 722,721 tCO2e over the crediting period 2010 - 2012. Refer to PDD Section A.4.3.1. Conclusion is pending responses to CAR 05, CAR 06, and CAR 12, which may result in recalculation of the CO_2 emissions. The recalculated GHG emission reduction 734,894 tCO2e.	Pending	OK
A.4.3.3. Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?	1,2	DR	The estimated annual emission reduction is 79,665 (for the year 2010), 318,659 (for the year 2011), 324,397 (for the year 2012) tonnes of CO2 equivalent. Refer to PDD Section A.4.3.1. Conclusion is pending responses to CAR 05, CAR 06, and CAR 12, which may result in recalculation of the CO2 emissions. The recalculated GHG emission reduction 326,620 tCO2e.	Pending	OK
A.4.3.4. Are the data from questions A.4.3.2 and A.4.3.3 above presented in tabular format?	1,2	DR	The data is presented in the tabular format. Refer to the Table in PDD Section A.4.3.1.		OK
A.5. Project approval by the Parties involved					
A.5.1. Are written project approvals by the Parties involved attached?	1,2	DR	Conclusion is pending a response to CAR 01.	Pending	

B. **Baseline**					
B.1. Description and justification of the baseline chosen					
B.1.1. Is the chosen baseline described?	1,2	DR	The baseline is defined as "Keeping the existing lines. Third party producers will satisfy cement demand instead" PDD Section B1 and Annex 2. **CAR 03.** The key information and data for the baseline is not presented in tabular format as required in [2].	CAR 03	OK

B.1.2. Is it justified the choice of the applicable baseline for the project category?	1,2,3	DR	The own baseline is established in line with Appendix B of JI Guidelines and the JISC Guidance on criteria for baseline setting and monitoring. The baseline approach applied for the JI project "Switch from wet-to-dry process at Podilsky Cement, Ukraine" (JI Track 2 ref. number: 0001), for which the determination has been deemed final, has been taken into account. The used approach to identify the baseline included two steps: - Step 1 Identification and listing of plausible alternative scenarios; - Step 2 Identification of most plausible alternative scenario. Seven alternatives were identified for analysis: - Alternative 1 Keeping the existing lines. Third party producers will satisfy cement demand instead; - Alternative 2. Keeping the existing lines and constructing a new line applying a wet process; - Alternative 3. Keeping the existing lines and constructing a new line applying a semi-dry	CAR 04	OK

			process; - Alternative 4. Keeping the existing lines and constructing a new line applying a dry process; - Alternative 5. Constructing a new line applying a wet process and dismantling the existing lines; - Alternative 6 Constructing a new line applying a wet process and dismantling the existing lines; - Alternative 7 (project scenario). Constructing a new line applying a semi-dry process and dismantling the existing lines. None of these Alternatives contradicts with the current legislation. Alternative 1 will use the existing lines and technological process. There are no legal or other requirements in Russia which would force Shchurovsky Cement to discontinue using the wet production process. No additional investment is required. This alternative is reasonable and feasible one. Alternatives 2 and more expensive 5 will use the out-dated wet process for cement production which would lead to high production costs. For this reason, they were excluded		

			from the further analysis. Alternative 3 will use the semi-dry method with costs comparable to the dry Alternative 7 but with a higher fuel consumption and yet inappropriate requirement to the moisture of the raw material. Therefore, it was excluded from the further analysis. The investment cost for Alternative 4 would amount to approximately 70% of that for Alternative 7 but fuel saving would be around 60% only. From the financial point of view, it was excluded from the further analysis. Alternative 6 which is almost similar to alternative 3 but implies additional investments was excluded from the further analysis. Alternative 7 will use a dry method which requires a significant investment in comparison to Alternative 1 but results in significant reduction of the kiln fuel consumption and, hence, CO2 emissions. This Alternative is regarded as reasonable and feasible one. In conclusion, only Alternatives 1 and 7 were left for identification of the viable baseline scenario. To define what of the two should be accepted as the baseline, the results of the investment analysis carried out according to		

			"Tool for the demonstration and assessment of additionality" in PDD Section B.2 were used. Eventually, Alternative 1 was reasonably taken as the most plausible baseline scenario. **CAR 04.** Please explain and justify, as per [3, para 25], the differences between the approach regarding baseline setting applied for the JI project "Switch from wet-to-dry process at Podilsky Cement, Ukraine" (JI Track 2 ref. number: 0001), for which the determination has been deemed final and that applied in PDD.		
B.1.3. Is it described how the methodology is applied in the context of the project?	1,2	DR	Not applicable since this is the own project-specific approach.		OK
B.1.4. Are the basic assumptions of the baseline methodology in the context of the project activity presented (See Annex 2)?	1,2	DR	Main assumptions of the baseline approach are as follows: - The existing facility would work at maximum technical capacity; - The maximum technical cement production capacity of the existing two wet kilns is approximately 1.3 million tonnes of cement per year; - The incremental production due to the project implementation will be approximately 0.8 million tonnes of cement per year;	CAR 05 CAR 06	OK OK

			- The existing cement production capacities would be kept and third Party producers would provide the incremental capacity (0.8 million tonnes of cement per year) instead; - In the baseline, the characteristics of the existing facilities are used; - Some baseline factors (kiln energy consumption per tonne of clinker, specific electricity consumption per tonne of cement) are calculated by determining a three year average prior to the project start regarding the existing kiln; the estimated figures have been fixed ex-ante; - The new cement capacities can have a potential effect on the production of other cement capacities within a radius of 1,000 km from the project site; according to the approach used, the weighted average of specific CO_2 emissions of the nearest 10 (default value) cement plants within a radius of 1,000 km (or all, if less than 10 exist); - The ex-ante emission factor for the incremental cement production ($BEF_{incr,\ y}$) is estimated as 0.829 tCO_2/t cement, subject for monitoring and calculation ex-post; the above value is the average for the 10 cement plants		

			selected; - GHG emissions from the sources fuel and electricity consumption at the quarry, fuel consumption at the raw material transportation are reasonably neglected; - The ex-ante combined margin emission factor for RES "Center" $EF_{el, y}$ = 0,511 t CO_2/MWh (CTF data) is used for calculation of emissions due to electricity consumption. **CAR 05.** The ten-plants sampling does not ensure the fulfillment of the condition that the incremental capacities include the plants within a radius of 1,000 km from the project. In fact, more than 10 plants are located within this distance. The missed plants shall be taken into account or the conservativeness of the neglect shall be assessed. **CAR 06.** The used grid emission factor for RES "Center" does not take into account the emission related characteristics of RES "Mid Volga" where Ulyanovskcement and Mordovcement are located.		
B.1.5. Is all literature and sources clearly referenced?	1,2	DR	Relevant literature and sources are referenced through the text of PDD. **CAR 07**. The baseline is lacking the transparency as the sources of data necessary	CAR 07	OK

			to make calculations of OM_y by formula (5) in PDD Annex 2.		
B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project					
B.2.1. Is the proposed project activity additional?	1,2,4 l	DR	To substantiate the additionality of the Project, the PDD developer used the most recent "Tool for the demonstration and assessment of additionally" (version 05.2) [4]. At Step 1, Alternative 1 (baseline) and Alternative 7 (project without registration under JI) were taken as realistic and credible alternatives compliant with the mandatory legislation and regulations. At Step 2, the investment analysis of Alternative 7 was carried out with the use of the benchmark analysis method according to [4]. Fuel and electricity cost savings in comparison with Alternative 1 were taken into account within the limits of the replacement capacity. The internal financial indicator IRR = 19% was applied as the benchmark. The calculations show that IRR is well below the above corporate threshold. Hence, the project is not financially and economically attractive	CAR 08 CAR 09	OK OK

			(without revenue from ERU sale). A sensitivity analysis was conducted to check the above conclusion. 4 scenarios of price growth were considered: 20% - for electricity and coal; 20% and 40% for cement. The results show that the IRR of Alternative 7 improved, but remained below the given IRR benchmark. Hence, the sensitivity analysis supports the conclusion that Alternative 7 (project) is unlikely to be financially and economically attractive (without ERU sale). At Step 4, the common practice analysis was conducted. No new cement capacity additions can be observed during the last 10 years within a radius of 1,000 km from the project site. So, the project provides emission reductions that is additional to any that would otherwise occur, and yet it financially additional to the baseline scenario. **CAR 08.** The presented during site visit at OJSC "Shchurovsky Cement" a financial information to a verifier (approved "FinPlan 2009 for years 2009-2013") and interview results with Deputy Health Safety & Environmental Manager, and Financial Controlling Specialist state that the enterprise		

			plans to convert from natural gas as fuel to coal since Q2 2010. In Sub-step 2c, Section B.2, page 20 the PDD developer used an assumption that the enterprise plans to start using natural gas as fuel and then to convert from natural gas to coal since 2012. **CAR 09.** Present the investment analysis in a transparent manner and provide all the input data, so that a reader can reproduce the analysis and obtain the same results (refer to [4], Sub-step 2c, para 8).		
B.2.2. Is the baseline scenario described?	1,2	DR	Please refer to PDD Section B.2.		OK
B.2.3. Is the project scenario described?	1,2	DR	The project scenario, being Alternative 7, is described in PDD Sections A.4.2. A.4.3, B.2.		OK
B.2.4. Is an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario included?	1,2	DR	The analysis is presented in PDD Section B.2 pp. 18-22.		OK
B.2.5. Is it demonstrated that the project activity itself is not a likely baseline scenario?	1,2	DR	Please refer to PDD Section B.2. The project activity without registration under JI mechanism is not a likely baseline scenario; in addition to it is not most economically and financially attractive as compared with the chosen baseline scenario.		OK
B.2.6. Are national policies and circumstances	1,2	DR	Information about relevant regulations in the		OK

relevant to the baseline of the proposed project activity summarized?			Russian Federation as regards to continue to apply to the wet process is presented in PDD Section B.2 p. 16.		
B.3. Description of how the definition of the project boundary is applied to the project activity					
B.3.1. Are the project's spatial (geographical) boundaries clearly defined?	1,2,3	DR I	**CAR 10.** Sources of emissions within the project boundary (ref. Table B.3.1 on p.22) include fuel and electricity consumption at the quarry though quarry is not included in the project boundary. Leakage effects from packaging are not analyzed though they can be measured and are directly attributable to the JI project. Fig. B.3.2 Sources of emissions and project boundary does not match with the technological scheme on the p.10 as regards quarry, dispatch, packaging, and palletization.	CAR 10	OK
B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline					
B.4.1. Is the date of the baseline setting presented (in DD/MM/YYYY)?	1,2	DR	The date of the baseline setting is 30/03/2009.		OK
B.4.2. Is the contact information provided?	1,2	DR	The baseline was developed by Global Carbon Rus LLC. Contact person: Aleksey Varfolomeev, Senior Engineer		OK

			Tel. +7 495 680 3000 Fax +7 495 680 4511 e-mail: varfolomeev@global-carbon.com		
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	**CAR 11.** It is not indicated if Global Carbon Rus LLC is a project participant listed in Annex 1 of the PDD [2].	CAR 11	OK
C. **Duration of the project and crediting period**					
C.1. Starting date of the project					
C.1.1. Is the project's starting date clearly defined?	1,2	DR	The start of construction of the new dry kiln is 01.10.2009. Supporting documents are in possession of verifier.		OK
C.2. Expected operational lifetime of the project					
C.2.1. Is the project's operational lifetime clearly defined in years and months?	1,2	DR	Operation life time of the project is 20 years or 240 months, defined as the period during which the project assets (the dry kiln) will be fully depreciated and are not subject to restoring.		OK
C.3. Length of the crediting period					
C.3.1. Is the length of the crediting period specified in years and months?	1,2	DR	It is defined as 2.25 years or 27 months starting from 1 October 2008.		Ok
D. **Monitoring Plan**					

D.1. Description of monitoring plan chosen					
D.1.1. Is the monitoring plan defined?	1,2,3	DR	The monitoring plan is established based on a JI specific approach, in accordance with JISC Guidance on criteria for baseline setting and monitoring, Part C. Option 1 – Monitoring of the emissions in the project scenario and baseline scenario – is chosen. The emissions subject for monitoring are those affected by the project and related to (1) the kiln fuel consumption; (2) calcination (decarbonisation); (3) the electricity consumption of the raw milling and the kilns. Data to be collected is defined in PDD Sections D.1.1.1 and D.1.1.3.		OK
D.1.2. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.	1,2	DR	This option is selected.		OK
D.1.3. Data to be collected in order to monitor emissions from the project, and how these data will be archived.	1,2	DR I	Data to be collected in order to monitor emissions from the project are defined in PDD Section D.1.1.1. These data and relevant monitoring points are as follows: - Emissions due to calcination, fuel consumption, and electricity consumption; they are calculated on the basis of the following	CAR 12	OK

			parameters: - Production of clinker (calculated & measured); - Consumption of fuel in the new kiln, boiler houses, coal mill, hot gas generator (measured); - Electricity consumption at cement production (raw material transportation and preparation, new kiln and grinding clinker), coal preparation, boilers, and coal mill (measured) - Emission factors of clinker production, fuels by type, electric grid (calculated); - Net caloric values of fuels by type (calculated). It is defined that the data will be archived electronically and on paper. **CAR 12.** Emission factor 0.525 tCO_2/t clinker on p. 29 should be included in PDD Section D.1.1.1 as a parameter for monitoring of the project emissions.		
D.1.4. Description of the Formulae used to estimate project emissions (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2,5	DR	These are Formulae (1) – (9) on p. 30-32 presented in PDD Section D.1.1.2. They allow to calculate CO_2 project emissions on the basis of data defined in D.1.3 above. **CAR 13.** Technical transmission and distribution losses as per "Tool to calculate	CAR 13	OK

			baseline, project and/or leakage emissions from electricity consumption" [5, p.12] are not taken into account in calculation of emissions due to project electricity consumption in Formulae (8). The same item of concern pertains to formulae (21), (23), (24) for baseline emissions.		
D.1.5. Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and archived.	1,2	DR I	Data to be collected in order to monitor baseline emissions are defined in PDD Section D.1.1.3. The parameters to be monitored are related to the two sources of CO_2 emissions: (1) production at the existing kilns (on-site replacement production with a maximum technical capacity) and (2) production by other cement plants (incremental production). There are 32 parameters necessary to monitor baseline emissions related to: - Clinker and cement production, calcination, fuel consumption, electricity consumption (all in replacement production); - Incremental cement production. The collected data are calculated-type and include the same parameters that were defined in D.1.3 above for project emission monitoring.	CAR 13	OK

			To calculate electricity and fuel consumption in the replacement production, the averaged over 2005-2007 values of kiln energy efficiency and specific electricity consumption were used (ref. to PDD Annex 2 Tables Anx.2.1 and Anx.2.2). To calculate baseline emissions in the incremental production, averaged data for 10 cement plants is used (ref. to PDD Annex 2). The ex-ante resulting value 0.829 tCO2/ t cement can be used. The plants data is in possession of the verifiers. It is defined that the data will be archived electronically or on paper. **CAR 14.** Clinker factor $CEM_{PR, y}$ / $CLIK_{PR, y}$ (clinker to cement ratio) on p. 37 should be included in PDD Section D.1.1.3 as a parameter for monitoring od the baseline emissions.		
D.1.6. Description of the Formulae used to estimate baseline emissions (for each gas, source etc, emissions in units of CO2 equivalent).	1,2	DR	These are Formulae (10) – (28) presented in PDD Section D.1.1.4, which allow to uniformly calculate CO_2 emissions from calcination process, fuel consumption, and electricity consumption in both the replacement and incremental production. It is proposed that the		OK

			existing wet kilns would continue production on the maximum technical capacity (replacement). Clinker production in the replacement part of the baseline is set equal to that on the existing wet kilns. Cement production in the incremental part of the baseline is defined as cement production in the project less that in the replacement part.		
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)	1,2	DR	Not applicable.		OK
D.1.8. Data to be collected in order to monitor emission reductions from the project, and how these data will be archived.	1,2	DR	Not applicable.		OK
D.1.9. Description of the Formulae used to calculate emission reductions from the project (for each gas, source etc; emissions/emission reductions in units of CO2 equivalent).	1,2	DR	Not applicable.		OK
D.1.10. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project.	1,2	DR	The leakages are reasonably considered negligible.		OK
D.1.11. Description of the Formulae used to estimate leakage (for each gas, source etc,; emissions in units of CO2 equivalent).	1,2	DR	Not applicable.		OK

D.1.12. Description of the Formulae used to estimate emission reductions for the project (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2	DR	This is the straightforward Formula (29) $ER_y = BE_y – PE_y$. Refer to PDD Section D.1.4.		OK
D.1.13. Is information on the collection and archiving of information on the environmental impacts of the project provided?	1,2	DR I	The environmental monitoring at Shchurovsky Cement is carried out in accordance with environmental legislative requirements of the Russian Federation. The company periodically monitors its emission parameters, according to the schedule of environmental impact monitoring. Supporting documentation was checked during the site visit.		OK
D.1.14. Is reference to the relevant host Party regulation(s) provided?	1,2	DR	**CAR 15.** References to the Russian Federation regulations with regard to the environmental impacts of the project are not provided in PDD as required in [2], Section D.1.5.	CAR 15	OK
D.1.15. If not applicable, is it stated so?	1,2	DR	Refer to D.1.14.	Pending	OK
D.2. Qualitative control (QC) and quality assurance (QA) procedures undertaken for data monitored					
D.2.1. Are there quality control and quality assurance procedures to be used in the monitoring of the measured data established?	1,2	DR I	**CAR 16.** Quality control and quality assurance procedures for data measurements are not explained.	CAR 16	OK

D.3. Please describe of the operational and management structure that the project operator will apply in implementing the monitoring plan					
D.3.1. Is it described briefly the operational and management structure that the project participants(s) will implement in order to monitor emission reduction and any leakage effects generated by the project	1,2	DR I	Refer to PDD Section D.3.		OK

D.4. Name of person(s)/entity(ies) establishing the monitoring plan					
D.4.1. Is the contact information provided?	1,2	DR	The monitoring plan was developed by - OJSC "Shchurovsky Cement". Contact person: Ms. Natalia Makarenko, Head of the Environmental Department Tel. +7 499 616 9711 Fax +7 499 616 9720 e-mail: Natalja.Makarenko@acem.ru - Global Carbon Rus LLC Contact person: Aleksey Varfolomeev, Senior Engineer Tel. +7 495 680 3000 Fax +7 495 680 4511 e-mail: varfolomeev@global-carbon.com		OK
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	Conclusion is pending the response to CAR 11.	Pending	OK
***E.* Estimation of greenhouse gases emission reductions**					
E.1. Estimated project emissions					
E.1.1. Are described the Formulae used to estimate anthropogenic emissions by source of GHGs due to the project?	1,2	DR	These are Formulae (1) – (9) presented in PDD Section D.1.1.2. The Formulae were checked and found correct with the reservation		OK

			in CAR 13.		
E.1.2. Is there a description of calculation of GHG project emissions in accordance with the Formula specified in for the applicable project category?	1,2	DR	GHG project emissions PE are calculated by Formulae (1) – (9) on the excel spreadsheet, which was made available to the verifiers. Calculations of GHG emissions PE by the Formulae (1) – (9) are shown in PDD Section D.1.1.2 and in Table E.1.1. Conclusion is pending responses to CAR 06, CAR 13, which may result in recalculation of the CO_2 emissions.	Pending	OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1,2	DR	GHG emissions due to fuel consumption during transportation of raw material were conservatively excluded (ref. to PDD Table B.3.1). Project emissions from fuel and electricity consumption at the quarry and raw material transportation were excluded since they are comparable in the project and baseline scenarios (ref. to PDD Table B.3.1).		OK
E.2. Estimated leakage					
E.2.1. Are described the Formulae used to estimate leakage due to the project activity where required?	1,2	DR	Not applicable (refer to E2).		OK
E.2.2. Is there a description of calculation of leakage in accordance with the Formula specified in for the	1,2	DR	Not applicable		OK

applicable project category?					
E.2.3. Have conservative assumptions been used to calculate leakage?	1,2	DR	Not applicable.		OK
E.3. The sum of E.1 and E.2.					
E.3.1. Does the sum of E.1. and E.2. represent the small-scale project activity emissions?	1,2	DR	The project falls under category of large scale projects. As no leakage is expected, E1+E2=E1. Refer to Table E.3.1		OK
E.4. Estimated baseline emissions					
E.4.1. Are described the Formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline using the baseline methodology for the applicable project category?	1,2	DR	These are Formulae (10) – (28) presented in PDD Section D.1.3. The Formulae were checked and found correct with the reservation in CAR 12.		OK
E.4.2. Is there a description of calculation of GHG baseline emissions in accordance with the Formula specified for the applicable project category?	1,2	DR	GHG baseline emissions BE are calculated by Formulae (10) – (28) on the excel spreadsheet, which was made available to the verifiers. Calculations of GHG baseline emissions BE by the Formulae (10) – (28) are shown in PDD Section D.1.1.4 and Table E.4.1. Conclusion is pending responses to CAR 05, CAR 06, and CAR 13, which may result in recalculation of the CO_2 baseline emissions.	Pending	OK
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?	1,2	DR	Baseline emissions from fuel and electricity consumption at the quarry and raw material		OK

			transportation were excluded since they are comparable in the project and baseline scenarios (ref. to PDD Table B.3.1).		
E.5. Difference between E.4. and E.3. representing the emission reductions of the project					
E.5.1. Does the difference between E.4. and E.3. represent the emission reductions due to the project during a given period?	1,2	DR	Yes, it does. Refer to Formula (29) ER = BE – PE in PDD Section D.1.4 and Table E.5. Conclusion is pending responses to CAR 05, CAR 06, and CAR 13, which may result in recalculation of the CO_2 emissions.	Pending	OK
E.6. Table providing values obtained when applying Formulae above					
E.6.1. Is there a table providing values of total CO_2 abated?	1,2	DR	PDD Section E.6 Table E.6.1 provides the total values of project emissions, leakage, baseline emissions, and emission reductions in accordance with the JI reporting format. Conclusion is pending responses to CAR 05, CAR 06, and CAR 13, which may result in recalculation of the CO_2 emissions..	Pending	OK

***F.* Environmental Impacts**					
F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party					
F.1.1. Has an analysis of the environmental impacts of the project been sufficiently described?	1,2	DR I	**CAR 17**. Please list the documentation in the PDD [2].	CAR 17	OK
F.1.2. Are there any host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1,2,6	DR I	Under the RF Urban Development Code N 190-ФЗ [6], the capital construction cannot start without an authority's permission. The latter is granted if there is a positive conclusion of the state expertise on the project documentation, which shall contain the results of EIA. Permissions of the environmental authority Rostekhnadzor shall also be issued for both the construction of the object and for its exploitation. Once the new dry kiln and supporting equipment have been constructed and commissioned, it should have all the permissions granted. The Environmental Permissions was checked during verifier's site-visit on 26.08.09 and found it meeting the state requirements.		OK
F.1.3. Are the requirements of the National Focal Point being met?	1,2, 7,8	DR	The requirements of the National Focal Point to present the EIA should be met before the		OK

		I	submission of the project to the Coordination Centre of National Focal Point [7,8]. Refer to F.1.2.		
F.1.4. Will the project create any adverse environmental effects?	1,2	DR I	The Environmental Permissions was checked during verifier's site-visit on 26.08.09 and found it meeting the state requirements.		OK
F.1.5. Are transboundary environmental impacts considered in the analysis?	1,2	DR I	The project activity has no transboundary environmental impacts.		OK
F.1.6. Have identified environmental impacts been addressed in the project design?	1,2	DR I	Conclusion is pending a response to CAR 17.	Pending	OK
G. Stakeholders' comments					
G.1. Information on stakeholders' comments on the project, as appropriate					
G.1.1. Is there a list of stakeholders from whom comments on the project have been received?	1,2	DR I	There is no information about any comments from stakeholders.		OK
G.1.2. The nature of comments is provided?	1,2	DR I	Refer to G.1.1.		OK
G.1.3. Has due account been taken of any stakeholder comments received?	1,2	DR I	Refer to G.1.1.		OK

Table 4 Legal requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. **Legal requirements**					
1.1. Is the project activity environmentally licensed by the competent authority?	1,2	DR	Refer to F.1.4	Pending	
1.2. Are there conditions of the environmental permit? In case of yes, are they already being met?	1,2	DR	The conditions of the environmental permit will be checked during the site.	Pending	
1.3. Is the project in line with relevant legislation and plans in the host country?	1,2	DR	Yes, the project is in line with relevant legislation and plans in the host country.		OK

Table 5 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CAR 01. The project has no approval of the Host Party.	1 Table 1		The conclusion is pending the approval by the host Party.
CAR 02. There is the ambiguity as to OJSC "Alfa Cement" which is indicated as the project participant in PDD Section A.3 and is missed in PDD Annex 1.	A.3.1	OJSC "Alfa Cement" was excluded from the list of project participants. Section A.3 and the Annex 1 adjusted accordingly.	The CAR is closed based on the due adjustments made to the PDD
CAR 03. The key information and data for the baseline are not presented in tabular format as required in [2].	B.1.1	A clear distinction between the theoretical approach and application to the project has been made in Section B.1. Tables of key data were added to Section B.1. Source data of net calorific value of lignite is IPCC Guidelines on National GHG Inventories and the relevant reference N 17 have been added in Section B:	Key information and data for the baseline are presented in tabular format as required in [2]. The CAR is closed based on the due addition made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		Currently the type of coal is not defined. Therefore the IPCC default net calorific value of lignite is used for emission calculation in Section E. After project implementation the data of net calorific value from the Certificate of coal supplier will be used for project and baseline emission calculation. References to the study "Development of grid GHG emission factors for power systems of Russia" commissioned by "Carbon Trade and Finance" in 2008 have been added in Section B and Annex 2.	
CAR 04. Please explain and justify, as per [3, para 25], the differences between the approach regarding baseline setting applied for the JI project "Switch from wet-to-dry process at Podilsky Cement, Ukraine" (JI Track 2 ref. number: 0001), for which the determination has been deemed final and that applied in PDD.	B.1.2	Project cement production is 2.1 mln. tonnes of cement per year. Existing cement production is 1.3 mln. tonnes of cement per year. Therefore there are two components of cement production in the baseline: • Replacement (1.3 mln. tonnes of cement per year); • Incremental (0.8 mln. tonnes of cement per	The CAR is closed based on the appropriate explanation and justification added to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		year). For the baseline emissions related to the *replacement* of the existing cement production the JI specific approach of JI0001 at Podilsky Cement has been used. This approach is used the parameters of existing equipment for emission calculation; For the baseline emissions related to the *incremental* capacity a multi-project baseline emission factor is introduced in Annex 2. Further explanation is added in Section B.1.	
CAR 05. The ten-plants sampling does not ensure the fulfillment of the condition that the incremental capacities include the plants within a radius of 1,000 km from the project. In fact, more than 10 plants are located within this distance. The missed plants shall be taken into account or the conservativeness of the neglect shall be assessed.	B.1.4	All cement plants (nineteen plants), located within a radius of 1,000 km from the project site, have been included. They are presented below: • Belgorodsky Cement: • Oskolcement; • Maltsovsky Portlandcement; • Podgorensky Cementnik; • Lipetskcement; • Voskresenskcement; • Podolskcement; • Ulyanovskcement;	All cement plants (nineteen plants), located within a radius of 1,000 km from the project site, have been included. The CAR is closed based on the due amendment made to the PDD as to the estimation of the incremental capacity emission factor.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		• Mikhailov Cement; • Mordovcement; • Savinsky cement plant; • Pikalevsy cement; • Volhovsky cement plant; • Slantsevsky cement plan;t • Zhigulevskiye stroymaterialy; • Volskcement ; • Volsky plant ATSI; • Uluanovskshifer Emission factor for incremental capacity is recalculated and necessary changes have been made in the revised PDD.	
CAR 06. The used grid emission factor for RES "Center" does not take into account the emission related characteristics of RES "Mid Volga" where Ulyanovskcement and Mordovcement are located.	B.1.4	The following information have been added in Annex 2 on page 78: This Study recommends to use the operating margin emission factor for baseline GHG emission calculation if JI project reduces the electricity consumption. After project electricity consumption	The 19 cement plants included in the incremental part of the baseline (refer to the summary response to CAR 05) are located in the zone of operation of four RES. For each zone the

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		will be decreased in comparison with baseline, as shown above. Therefore the operating margin emission factors were used for emission calculation. The operating margin emission factors were used for emission calculation both in the project and baseline. It is conservative. For the calculation of emissions related to electricity consumption in the project and baseline scenarios for replacement part of cement production, the operating margin emission factor for RES "Centre" was applied as grid emission factor and fixed ex-ante: $EF_{el\_j,y}$ = 0.526 tCO_2/MWh. For the calculation of emissions related to electricity consumption in the baseline scenarios for incremental part of cement production, the corresponding operating margin emission factors	relevant grid emission factor was determined and used in the estimation of baseline emission. The CAR is closed based on the appropriate addition made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		(for RES "Centre", RES "Mid Volga", RES "North-West" and RES "South") were applied as grid emission factors. The grid emission factor of RES "Centre" was used emission calculation at: • Belgorodsky Cement; • Oskolcement; • Maltsovsky Portlandcement; • Podgorensky Cementnik; • Lipetskcement; • Voskresenskcement; • Podolskcement; • Mikhailov Cement. The grid emission factor of RES "Mid Volga" (0.534 tCO_2/MWh) was used for emission calculation at: • Ulyanovskcement; • Mordovcement; • Zhigulevskiye stroymaterialy; • Volskcement;	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		• Volsky plant ATSI; • Uluanovskshifer. The grid emission factor of RES "North-West" (0.591 tCO_2/MWh) was used for emission calculation at: • Savinsky cement plant; • Pikalevsy cement; • Volhovsky cement plant; • Slantsevsky cement plant. The grid emission factor of RES "South" (0.602 tCO_2/MWh) was used for emission calculation at: • Sebryakovcement. • The whole Study is available on request.	
CAR 07. The baseline is lacking the transparency as the sources of data necessary to make calculations of OM_y by formula (5) in PDD Annex 2.	B.1.5	Reference N 37 and 38 have been added to the PDD (page 71). Reference N 37: "The data of annual cement and clinker production and annual fuel and electricity consumption at Russian cement plants are taken from the OJSC "NIICEMENT" annual statistical	The CAR is closed based on the provision of baseline transparency made in the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		report "Russian Cement Industry in 2006". Reference N 38: "The data of grid emission factors for the nearest 19 cement plants within a radius of 1,000 km from the project are taken from the study "Development of grid GHG emission factors for power systems of Russia" commissioned by "Carbon Trade and Finance" in 2008. Amounts of grid emission factors are presented in Annex 2 below"	
CAR 08. The presented during site visit at OJSC "Shchurovsky Cement" a financial information to a verifier (approved "FinPlan 2009 for years 2009-2013") and interview results with Deputy Health Safety & Environmental Manager, and Financial Controlling Specialist state that the enterprise plans to convert from natural gas as fuel to coal since Q2 2010. In Sub-step 2c, Section B.2, page 20 the PDD developer used an assumption that the enterprise plans to start using natural gas as fuel and then to convert from natural gas to coal since 2012.	B.1	The starting date of project is 15 September 2010 (3Q 2010). Therefore coal is the main fuel during the crediting period. Natural gas will be only five percent (in line with Shchurovsky Cement forecast) in the fuel balance for some processes (for example, it may be drying process). Emissions recalculation and relevant changes in PDD have been made.	Coal is now considered in the PDD as the main fuel. The CAR is closed based on due amendments and recalculations made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CAR 09. Present the investment analysis in a transparent manner and provide all the input data, so that a reader can reproduce the analysis and obtain the same results (refer to [4], Sub-step 2c, para 8).	B.2.1	The project cash flows as well as ERUs calculation are done within the identified project boundaries. This project is not a simple greenfield project with the new capacities, but is linked to the existing plant implying use of infrastructure and closing two old wet kilns with total capacity of 1.3 million tonnes. Thus the new dry kiln will replace 1.3 million tonnes of cement produced before and 0.8 million will be in addition to this, i.e. incremental. When making the project cash flows it is always being considered the situation before and after the project. What would happen if project is not implemented? One million tonnes of cement will be produced and sold at price X and having operation cost Y relevant for the wet method. After the project 2.1 million tonnes of cement is produced and sold at the same price X but having operation cost Y1 relevant for dry method (i.e. smaller). Project cash flow = after the project – before the project: (X *(1.3 + 0.8) – 2.1 Y1) – (X –Y) = 1.3*(Y-Y1) (replacement) + 0.8 (X-Y1) – incremental part.	The explanation of the approach to the investment analysis is accepted. The deviation from the "Additionality Tool" was disclosed, namely the fact that all the input data for the investment analysis are not published in the PDD as requited by the tool. Instead, the spreadsheet with the investment analysis was provided to the determination team. It will be submitted to JISC as the supporting documentation at the stage of final determination. The CAR is closed based on the appropriate additions and amendments made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		This approach is being used for all international projects. All the other comments were taken into account and changed in the Section B2 and relevant cash flows, namely: 1. Instead of company internal benchmark a conservative approach of taking IRR benchmark consisting of only without risk factor (Central Bank refinancing rate) was applied; 2. Sensitivity analysis is being performed within +/- 10% corridor as recommended by the Guidance being the Annex of CDM Additionality Tool Version 5.02. 3. The coal as main fuel is being considered and cash flows were accordingly adjusted. Also the following information have been added in Section B.2: All essential techno-economical parameters and assumptions (such as capital costs, fuel prices,	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		lifetime and other) are received from Shchurovsky Cement. The Tool recommends to provide the all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD, so that a reader can reproduce the analysis and obtain the same results. The background financial data is available in Excel file on Financial analysis. Formulae are designed in a such a way that all background information used can be traced. This file was made available to an Accredited Independent Entity and after the final determination will be publicised at the UNFCCC website as Supporting document. Therefore this is the only one deviation from the Tool.	
CAR 10. Sources of emissions within the project boundary (ref. Table B.3.1 on p.22) include fuel and electricity consumption at the quarry though quarry is not included in the project boundary. Leakage effects from	B.3.1	Emissions associated with the fuel and electricity consumption at the quarry have been included in the project boundary. Leakage effects from packaging are associated with electricity consumption only and are reflected in total	The CAR is closed based on due amendments made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
packaging are not analyzed though they can be measured and are directly attributable to the JI project. Fig. B.3.2 Sources of emissions and project boundary does not match with the technological scheme on the p.10 as regards quarry, dispatch, packaging, and palletization.		electricity consumption for cement production both in baseline and in project scenario. Figure B.3.2 and Figure A.4.2.2 (the technological scheme) have been adjusted.	
CAR 11. It is not indicated if Global Carbon Rus LLC is a project participant listed in Annex 1 of the PDD [2].	B.4.3	Global Carbon Rus LLC is excluded from the list of project participants. The Section A.3, B.4.3 and the Annex 1 were changed accordingly.	The CAR is closed based on due correction made to the PDD.
CAR 12. Emission factor 0.525 tCO_2/t clinker on p. 29 should be included in PDD Section D.1.1.1 as a parameter for monitoring of the project emissions.	D.1.3	This emission adjusted ($EF_{dec,y}$) has been included in Section D.1.1.1 for monitoring purposes.	The CAR is closed based on due addition made to the PDD.
CAR 13. Technical transmission and distribution losses as per "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" [5, p.12] are not taken into account in calculation of emissions due to project electricity consumption in	D.1.4	The following information have been added in Annex 2 on pages 76 and 77: Total quantity of project electricity consumption is 211,300 MWh per year (for 2011). In the baseline there are two components of cement production:	The reasonable justification for the neglect of ttechnical transmission and distribution losses is made. The CAR is closed based the appropriate justification made

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
Formulae (8). The same item of concern pertains to formulae (21), (23), (24) for baseline emissions.		• Replacement (1,3 mln. tonnes of cement per year); • Incremental (0.8 mln. tonnes of cement per year). Baseline electricity consumption for replacement part of cement production is 178,400 MWh per year (for 2011). For estimation of electricity consumption for incremental part of cement production the average specific factor of electricity consumption is used. This factor was defined as weighted average value of the nearest nineteen cement plants located within a radius of 1,000 km from the project. It is equal 110 MWh/t cement. Baseline electricity consumption for replacement part of cement production is: 110 MWh/t cement × 0.8 mln. tonnes of cement per year = 87,112 MWh. And total baseline electricity consumption is 178,400	in the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		+ 87,112 = 265,512 MWh. The project electricity consumption is less than baseline electricity consumption and the project technical transmission and distribution losses are less than the baseline technical transmission and distribution losses. Therefore the technical transmission and distribution losses were not have taken into account in emission calculations. It is conservative.	
CAR 14. Clinker factor $CEM_{PR,y}$ / $CLIK_{PR,y}$ (clinker to cement ratio) on p. 37 should be included in PDD Section D.1.1.3 as a parameter for monitoring of the baseline emissions.	D.1.5	Clinker factor is included in Section D.1.1.3	The CAR is closed based on due addition made to the PDD.
CAR 15. References to the Russian Federation regulations with regard to the environmental impacts of the project are not provided in PDD as required in [2], Section D.1.5.	D.1.14	Some references were added in Section D.1.5: • Federal law of the Russian Federation "On Environment Protection" (10 January 2002, N 7-FZ); • Federal law of the Russian Federation "On Air Protection" (04 May 1999, N 96-FZ).	The CAR is closed based on due additions made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		The following information is added in Section D.1.5: "Shchurovsky Cement has ISO 14001:2004 certificate". It means that Shchurovsky cement exercises the relevant environmental audit procedures.	
CAR 16. Quality control and quality assurance procedures for data measurements are not explained.	D.2.1	Quality control and quality assurance procedures for data collection and measurement are described more in detail. Information about the measuring methods, registration and treatment of relevant data and responsible department s are added in Section D.2: The following information about internal quality system at Shchurovsky cement is added in Section D.2: The plant will be equipped with all required instrumentation and field devices for the process interlocking, measurements and protection. The instrumentation and field devices will include all the instrumentation and field devices and all electrical equipment in the field necessary for accurate	The CAR is closed based on appropriate additions made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		analogue and digital measuring required for the control and supervision. Modern Plant Automation and Control Networks based on Siemens Cemat will be introduced. The plant's Department of the Control and Measuring devices is in charge of the efficient supervision of measuring devices operation and performance. It checks and replaces the devices (adjusted and calibrated) if necessary. Calibration of the metering devices is made in accordance with the calibration schedule. It is approved every year. The metering devices are calibrated by the independent entity which has a state license. Currently it is Kolomensky branch of Federal State Body "Mendeleevcky Centre of Standardization and Metrology".	
CAR 17. Please list the documentation in the PDD [2].	F.1.1	The following information was added in Section F.1: "Conclusion of Federal Supervision Service on Consumer Rights Protection and Human Wellbeing	The CAR is closed based on appropriate additions made to the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		N 5.99.04.000.T.001125.03.09, 24 March 2009 states that project activity complies with the Sanitarian and Epidemiologic Regulations of Russian Federation". And in Section F.2: "Shchurovsky Cement submitted a Design Document for this project to the Federal State Institution "The Main Agency of the State expertise" (FGU "Glavgosexpertiza" in Russian abbreviation) and received an approval in July 2009 (Positive conclusion of FGU "Glavgosexpertiza" N 394-09/ГГЭ-5625/03, 01 July 2009)".	

Appendix B: Verifiers CV's

Mr. Flavio Gomes:
Lead Verifier
Bureau Veritas Certification Holding SAS – Global Manager for Climate Change

Flavio Gomes is a Chemical and Safety Engineer graduated from «UNICAMP – Universidade Estadual de Campinas», with a MSc title in Civil Engineer (Sanitation). He spent four years at RIPASA Pulp and Paper as Environmental Process Engineer. He is, since 2006 the Global Manager for Climate Change. Previously and since 1997, he was senior consultant for Bureau Veritas Consulting in fields of Environment, Health, Safety, Social Accountability and Sustainability audit and management systems. He also acted as Clean Development Mechanism verifier, and Social/Environmental Report auditor, in the name of Bureau Veritas Certification. Flavio is pursuing his PhD on Energy Management at the Imperial College – London.

Vera Skitina, PhD (chemicals)
Verifier
Bureau Veritas Certification Russia Technical Director - Lead Auditor, Lead Tutor, Verifier

She has over 15 years of experience in powder metallurgy, aluminium metallurgy, plastic metal working, physical-chemistry processes, gas production at power plant, environmental science. She worked in Irkutsk Aluminium Plant, SUAL powder metallurgy plant, Nadvoitzky aluminium plant, Central Scientific Institute of Metals. She is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). She performed over 200 audits since 2004. Also she is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered ISO 9001 Lead Auditor Training Course. She is an Assuror of Social Reports. She has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of over 10 JI projects and verification of 2 JI projects.

Leonid Yaskin, PhD (thermal engineering)
Verifier.
Bureau Veritas Certification Rus General Director- Lead Auditor, Lead Tutor, Verifier

He has over 30 years of experience in heat and power R&D, engineering, and management, environmental science and investment analysis of projects. He worked in Krrzhizhanovsky Power Engineering Institute, All-Russian Teploelectroproject Institute, JSC Energoperspectiva. He worked for 8 years on behalf of European Commission as a monitor of Technical Assistance Projects. He is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). He performed over 250 audits since 2002. Also he is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered OHSAS 18001 Lead Auditor Training Course. He is an Assuror of Social Reports. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of over 30 JI projects.

Ivan G. Sokolov, Dr. Sci. (biology, microbiology)
Technical reviewer

Bureau Veritas Ukraine HSE Department manager, climate change Local Product Manager, Lead Auditor, Lead Tutor, Lead Verifier.

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 140 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 22000 FSMS Lead Auditor Training Course. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he was involved in the determination of 15 JI projects.