Final Determination Report

Determination of the
” Switch from wet-to-dry process at Podilsky Cement, Ukraine”
JI project in Ukraine

Report No. 852369, Rev. 02

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Client:	Global Carbon B. V. Benoordenhoutseweg 23 The Hague, 2596 BA The Netherlands
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Summary:

The Certification Body "Climate and Energy" of TÜV SÜD Industrie Service GmbH has been ordered by Global Carbon B.V. in The Hague, The Netherlands, to determine the above mentioned JI-project in Ukraine.

The determination of this project has been performed by document reviews, interviews by e-mail and on-site inspections, audits at the locations of the project and interviews at the offices of the project owner.

As the result of this procedure, it can finally be confirmed that the project is in line with the requirements set by the Marrakech Accords and the Kyoto Protocol.

TÜV SÜD recommends this project for registration at the JI Supervisory committee.

The assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 3 023 403 tons CO_{2e} (to be issued as ERUs) in the intended first crediting period from 2009 - 2012 (the first Commitment Period of the Kyoto Protocol lasts from 2008-2012), resulting in annual emission reductions of 755 851 tons CO_{2e}, represents a reasonable estimation using the assumptions given by the project documents.

Work carried out by:	Thomas Kleiser (project manager, lead auditor) Olga Mikhaylyuk (local expert)	Internal Quality Control by: Werner Betzenbichler, Javier Castro

Abbreviations

CAR	Corrective action request
CR	Clarification request
DOE	Designated Operational Entity
DNA	Designated National Authority
DP	Determination Protocol
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
ERU	Emission Reduction Unit
FSC	Forest Stewardship Council
GHG	Greenhouse gas(es)
IRR	Internal Rate of Return
JI	Joint Implementation
KP	Kyoto Protocol
LoA	Letter of Approval
MP	Monitoring Plan
MS	Management System
NGO	Non Governmental Organisation
NPV	Net Present Value
PDD	Project Design Document
SC	Supervisory Commitee
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

Private company Global Carbon B.V. in The Hague, The Netherlands has commissioned TÜV SÜD to conduct a determination of the "Switch from wet-to-dry process at Podilsky Cement, Ukraine" JI project in Ukraine with regard to the relevant requirements for JI project activities. The determination serves as a conformity test of the project design and is a requirement for all JI projects. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions (in particular ERUs - in the first commitment period under the Kyoto Protocol).

UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

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 and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual (see www.vvmanual.info), employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of emission reductions.

This report is based on the PDD version of July 3rd, 2006 (PDD version No. 1.3). This version was published in the context of the Global Stakeholder Process (GSP) on the website of www.netinform.de (link see chapter 4). Potential stakeholders have been invited for commenting by using the Climate-L announcement list service.
According to CARs and CRs indicated in the audit process the client decided to revise the PDD. The final version of the PDD was published in second stakeholder process from October 27 to November 25, 2006. (version 2.0, dated August 29th, 2006), which served as the basis for the final conclusions presented herewith. Again potential stakeholders have been invited for commenting using www.netinform.de (link see chapter 4) and the Climate-L announcement list service. No comments were received.

Studying the existing project documentation, it was obvious that the competence and capability of the validation team has to cover at least the following aspects:

- Knowledge of Kyoto Protocol and the Marrakech Accords
- Environmental and Social Impact Assessment
- Skills in environmental auditing (ISO 14000, EMAS)

- Quality Assurance
- Technologies, processes and operation of Cement plants
- Fuel switch
- Baseline concepts
- Monitoring concepts
- Political, economical and technical random conditions in host country

According to these requirements TÜV SÜD has assembled a project team in accordance with the appointment rules of the TÜV certification body "Climate and Energy":

Thomas Kleiser is head of division CDM and JI at TÜV Industrie Service GmbH. In this position he is responsible for validation, verification and certifications processes for GHG mitigation projects as well as trainings for internal auditors. He has already conducted more than 60 validations and verifications of CDM and JI projects.

Olga Mikhaylyuk participated as local auditor in the audit and functioned as local expert. Olga has received extensive training in the CDM and JI validation (determination) processes.

Furthermore other experts of the Munich team of TÜV SÜD's Carbon Management Service have been partially involved in the project audit.

The audit team covers following requirements:

- Knowledge of Kyoto Protocol and the Marrakech Accords (All)
- Environmental and Social Impact Assessment (All)
- Skills in environmental auditing (ISO 14000, EMAS) – (All)
- Quality Assurance (ALL)
- Technologies, processes and operation of Cement plants (Kleiser,)
- Fuel switch (Kleiser,)
- Baseline concepts (All)
- Monitoring concepts (All)
- Political, economical and technical random conditions in host country (Kleiser, Mikhaylyuk)

In order to have an internal quality control of the project, a team of the following persons has been composed by the certification body "climate and energy":

Werner Betzenbichler – Head of the Certification Body "Climate and Energy" and
Javier Castro – Deputy Head of the Certification Body "Climate and Energy"

1.3 GHG Project Description

The core of the proposed JI-project is the switch from wet-to-dry process at Podilsky Cement. In the case of proposed JI project the existing four wet kilns will be replaced with one modern dry kiln system. The raw material preparation in the dry cement production process will also be changed compared to the case of wet technology. The existing four wet kilns will be replaced by a four-stage calciner kiln system with a modern efficient grate cooler. The switch from wet-to-dry process at Podilsky Cement will lead to a significant improvement of the kiln economy and reduce remarkably the fuel consumption (kiln, heat exchanger) as well as the electricity consumption (raw milling, kiln, coal mill) for the operation of the plant in project case. Thus the project leads to a significant reduction of CO_2 emissions in the project scenario in comparison to the baseline scenario. CO_2 is the only relevant GhG gas for this type of project.

The project has not yet been finally apprpoved by the board of CRH. Without JI-revenues the project will not be feasible.

No measures related to the project have been carried out so far.

The starting date of the project activity is defined as date of commissioning of the new equipment. Thus the starting date will be January 1st, 2009.

The starting date of the crediting period will be January 1st, 2009, too. The crediting period will end on December 31st, 2012 with the end of the first commitment period of the Kyoto protocol.

The project has two project participants. The Project Participant of the Host Country Ukraine is JSC Podilsky Cement. JSC Podilsky Cement in Kamyanets, Ukraine is the owner of the project and also the owner of permits and licenses of the site.

Second project participant from an annex 1 country is CRH from Ireland as holding company of JSC Podilsky Cement.

Global Carbon B.V. in cooperation with the two project participants was responsible for the development of this JI project in Ukraine.

2 METHODOLOGY

In order to ensure transparency, a determination protocol was customised for the project, according to the Validation and Verification Manual (VVM). 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 organises, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent determination process where TÜV SÜD has documented how a particular requirement has been validated and the result of the determination.

The determination protocol consists for this project of three tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Annex 1 to this report.

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**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the determination report. **O** is used in case of an outstanding, currently not solvable issue, **AI** means Additional Information is required.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent determination process.*

Determination Protocol Table 2: Requirement 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 organised in six different 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** or **Additional Information** is used when the independent entity has identified a need for further clarification or more information.*

Determination Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action and additional Information requests	***Ref. to checklist question in table 2***	***Summary of project owner response***	***Determination conclusion***
If the conclusions from the draft determination are either a Corrective Action Request or a Clarification or Additional Information Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification or Additional Information Request is explained.*	*The responses given by the Client or other project participants during the communications with the independent entity should be summarised in this section.*	*This section should summarise the independent entity's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

2.1 Review of Documents

The project participants submitted PDD and additional background documents related to the project design and baseline. A review for all these documents has been performed in order to identify all issues for discussion during the follow-up interviews on-site and by phone or email.

2.2 Follow-up Interviews

On July 18th and 19th, 2006, the audit team of TÜV SÜD performed on-site audits and subsequently additional e-mail interviews with the project owner, the investor and the project developer to resolve issues identified in the document review. Representatives of Ukrainian company "JSC Podilsky Cement" as project owner, Irish company CRH as holding company of JSC Podilsky Cement and investor as representatives from Global Carbon B. V. as responsible company for the final project development have been interviewed.

The main topics of the interviews are summarised in Table 1. The complete and detailed list of all persons interviewed is enclosed in Appendix 2 to this report.

Table 1: Interview topics

Interviewed organisation	Interview topics
Podilsky Cement	Project design, baseline, monitoring plan, environmental impacts, permits and licenses, stakeholder comments, monitoring procedures, calibration of the measurement equipment, archiving of data, cement processing, fuel supply, electricity use, approval of the project, JI-Guidelines, national policy, social issues (employment)
CRH	Project design, baseline, monitoring plan, environmental impacts, investment, additionality, monitoring procedures, calibration of the measurement equipment, documentation, archiving of data, cement sector, approval of the project, JI-Guidelines
Global Carbon B.V.	Project design, baseline, monitoring plan, environmental impacts, permits and licenses, stakeholder comments, monitoring procedures, calibration of the measurement equipment, archiving of data, cement processing, fuel supply, electricity use, approval of the project, JI-Guidelines, national policy, social issues (employment); all directly to PDD and JI related topics

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified in order to achieve a positive conclusion during the assessment process. Clarification Requests raised by TÜV SÜD have been resolved in most parts in the answers to the draft determination protocol (submitted from TÜV SÜD to the client in early August 2006), prepared by Global Carbon B.V. at the end of August 2006. A revised final PDD, dated August 29th, 2006 and a number of additional documents have been submitted to the validator in order to provide the required evidences.

To guarantee the transparency of the determination process, the concerns raised are and the response given are summarised in chapter 3 below. The whole process is documented in more detail in the final determination protocol in Annex 1.

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

3 DETERMINATION FINDINGS

In the following sections the findings of the final determination are stated. The determination findings for each determination subject are presented as follows:

1) The findings from the desk review of the project design document and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the Determination Protocol in Annex 1.

2) Where TÜV SÜD has identified issues that needed clarification or that represented a risk to the fulfilment of the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Annex 1. In total 2 Corrective Action Requests, 20 clarification requests and 3 open issues have been raised.

3) Where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in the final determination report.

4) The final conclusions of the determination are presented consecutively.

3.1 Project Design

3.1.1 General Findings

The PDD correctly applies the current valid format for JI projects. The project design fulfils all current valid requirements for JI projects.

The foreseen technology does reflect current good practice for cement production. The project itself has to be considered as an innovative project in the Ukrainian cement industry. The project uses technology and applies a technology that goes beyond the state of the art in the host country. Moreover it is unlikely that the foreseen project technology will be substituted during the crediting period by a still more efficient technology.

Ukraine is a Party to the Kyoto Protocol since April 12th, 2004 and already has installed national procedures for the approval of JI projects. A Letter of Approval (LoA) for this project was issued on 27 Dec. 2006.

Ireland is also party of the Kyoto Protocol and has submitted its LoA on 19 Jan 2007. Ireland's approval procedures for JI projects are published on the UNFCCC webpage.

The project participants (JSC Podilsky Cement; CRH) and the relating countries (Ukraine; Ireland) are clearly and correctly described in the PDD.

The project boundaries currently are not clearly described in the PDD. Furthermore there is a wrong description of baseline and project emissions in chapter E.

The project starting date is clearly defined in the PDD. Also the starting date of the crediting period is clearly defined (January 1st, 2009).

Besides this the project description is clear, transparent, extensive and re-traceable and fulfils all the requirements for a well-developed JI-Project.

3.1.2 Issued CARs/CRs and Outstanding Issues

Outstanding Issue No. 1:
Currently there are no Letters of Approval /Letter of No Objection available from the involved parties, neither from Ukraine nor from Ireland.

Response:

Ireland has issued its LoA for this project on 19 Jan 2007 and Ukraine issued its LoA for this project on 27 Dec. 2006.

Outstanding Issue No. 2:

Ireland has not yet in place publicly available national guidelines and procedures (G&P) for the approval of JI projects so far.

Response:

Ireland has published national guidelines and procedures (G&P) on the UNFCCC webpage.

Outstanding Issue No. 3:

Ireland´s national registry which is necessary for the registration of the generated ERU´s is still under development.

Response:

This outstanding issue is out of the direct influence of the project participants and is not a direct requirement for project registration.

Corrective Action Request No. 2 (CAR 2):

The titles of chapter E.1 and E.4 have to be exchanged. Otherwise project emissions are higher than baseline emissions

Response:

The mistake has been corrected.

Clarification Request No. 1 (CR 1):

The Ukrainian Grid should be taken out from the project boundaries

Response:

Ukrainian grid has been taken out of project boundaries. A preliminary plant layout has been included in the PDD.

Clarification Request No. 4 (CR 4):

The source of the carbon emission factor for the Ukrainian electricity grid has to be clearly identified in the PDD

Response:

The necessary remark has been included.

Clarification Request No. 6 (CR 6):

The different risks for the project should be summarized and evaluated in a separate table.

Response:

The risks have been included as requested.

Clarification Request No. 20 (CR 20):

There should be a link to national environmental laws/regulations in the PDD and their relevance for the project.

Response:

The required information is included in the final PDD.

3.1.3 Conclusion

The revised final PDD contains all required additional information and the requested corrections and clarifications.

All given responses to the indicated CARs and CRs are resolving the relevant issues.

3.2 Baseline

3.2.1 Findings

The baseline methodology for this project is well-developed using a project specific approach. The applied methodology nevertheless takes also into account requirements set by already approved CDM methodologies for the cement sector so far as applicable. Possible baseline alternatives have been plausibly and re-traceably elaborated and transparently discussed. The final baseline scenario is the continuation of the wet cement process already applied at Podilsky cement in the years before and resulting in a bad kiln economy. The necessary data to calculate the baseline are available. All assumptions for the baseline calculation are well-proven, clearly defined and sourced correctly.

The baseline does take into account the IPCC Good Practice Guidance in National Greenhouse Gas Inventories, further project specific literature and the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described and their impact on the baseline and the project risk is evaluated.

The additionality of the project is proven by using the "Additionality Test" which is commonly used for CDM projects. The additionality of the project is mainly proven by financial barriers, description of technical barriers and prevailing practice analysis. It is clearly stated and could be proven that the large investment necessary for the project is impossible without the revenues of this JI project. No comparable projects currently exist in Ukraine or neighbouring countries.

The on-site assessment also has given a focus on the environmental additionality and on the price risks for ERUs.

3.2.2 Issued CARs/CRs

Clarification Request No. 3 (CR 3):

Information should be added to the PDD why the years 2002 – 2004 have been chosen to determine baseline kiln economy and the year 2005 to determine the specific electricity consumption

The conservativeness of the approach has to be explained

Response:

The requested clarifications have been included to the final revised PDD. For further information please see attached determination protocol.

Clarification Request No. 5 (CR 5):

To prove and confirm the discussion under B.1. "Description and Justification of the baseline" it is important that it can be demonstrated with written documents that there is no link between the "first project "switch from natural gas to coal" in 2006 (information concerning the board decision on this project) and the JI-project (switch from wet- to dry-process).

Response:

A re-traceable and official statement confirming that there is no link between the two described measures has been submitted to the validator.

3.2.3 Conclusion

The given responses to the indicated CARs and CRs are resolving the relevant issues. The project fulfils the criteria on baselines as required for the approval of JI-projects.

3.3 Duration of the Project

The project starting date is defined as date of the envisaged commissioning of the equipment, this is January 1st, 2009. The crediting period is demonstrated as the four years from 2009 to 2012 but no fixed dates for starting and ending are given currently in the PDD. This has to be clarified. But it is already clear that the envisaged period correctly falls under the first commitment period of the Kyoto Protocol.

The crediting period is for 4 years, even though in the emission reduction table the year 2008 is mentioned. The latter only shows that no emission reductions will occur before the staring date of the crediting period.

The operational lifetime of the foreseen technology will be longer than the crediting period. Nevertheless additional information concerning the expected lifetime of the new equipment has been submitted to the validator.

3.3.1 Findings

Clarification Request No. 7 (CR 7):

An additional sentence should be added to prove that these 30 years for the lifetime of the equipment are a realistic and conservative assumption.

Response:

An overview of lifetime of other kilns has been included in section C.1.1.

Clarification Request No. 8 (CR 8):

Day and month of starting and end of the crediting period should be added to the PDD. A time schedule for the project highlighting the different milestones should be submitted to the validator to prove that the starting date has been chosen on a realistic basis.

Response:

The necessary information has been included in the final PDD.

3.3.2 Conclusions

The given responses to the indicated CARs and CRs are resolving the relevant issues. The project fulfils the criteria on baselines as set for the approval of JI-projects.

3.4 Monitoring Plan

3.4.1 Findings

The project again uses a project-specific approach for the monitoring. As far as possible guidance from approved CDM methodologies is used for the monitoring concept.

The monitoring methodology mostly does reflect current good practice and is supported by the monitored and recorded data. The monitoring provisions are in line with the project boundaries.

Indicators for project emissions and baseline emissions have been defined and will be monitored.

Leakage emissions are not monitored according to the monitoring plan as there are no emissions to be expected.

The registration, monitoring, measurement and reporting will be connected to existing monitoring procedures of JSC Podilsky cement.

The already partially trained personnel can work in this project which ensures the quality of the monitoring system. Nevertheless additional trainings will be necessary.

Furthermore the "CO_2 Emissions Monitoring and Reporting Protocol for the Cement Industry" of the World Business Council for Sustainable Development (WBCSD), Working Group Cement; see: www.wbcsd.org is applied.

But the current available monitoring plan does not consider the latest decisions of EB 23 concerning monitoring requirements and furthermore needs to be elaborated more detailed in some aspects and adjusted in some points.

3.4.2 Issued CARs/CRs

Corrective Action Request No. 1 (CAR 1):

In the actual PDD no information is available concerning monitoring errors and uncertainties. This information has to be added to the revised PDD.

Response:

Monitoring errors and uncertainties have been included in table 12 in Section D.3 of the PDD.

Clarification Request No. 2 (CR 2):

Information concerning the responsibilities for trainings and maintenance should be included in the final PDD.

Response:

Training and maintenance activities have been included in the final PDD.

Clarification Request No. 10 (CR 10):

Additional information/clarifications/ corrections should be included in the PDD to make the description of the monitoring concept more transparent and demonstrate the conservative approach. For more detail see "Determination Protocol" (Annex 1).

Response:

All issues to be clarified have been resolved (see determination protocol).

Clarification Request No. 11(CR 11):

Information about the data flow, monitoring responsibilities (functions in the organigram), management structure, measuring of data, procedures etc. Has to be included in the final PDD (for more information see "Determination Protocol".

Response:

Required information has been included in Section D.2 and D.3. of the final PDD. The monitoring plan will be finally updated prior to first verification.

Clarification Request No. 13(CR 13):

A training program for the new technology with responsibilities should be included in the PDD (monitoring plan).

Response:

Information on training measures and programs has been included in the final PDD.

Clarification Request No. 14(CR 14):

Questions of procedures for emergency cases under this project should at least be discussed in the PDD. See also annotations under CR 10 concerning use of other fuels or utilization of the old kilns.

Response:

The clarification has been included in section A.4.2. of the final PDD.

Clarification Request No. 15(CR 15):

Issues of maintenance after project implementation should be included in the revised PDD.

Response:

The clarification has been included in the final PDD.

Clarification Request No. 16(CR 16):

The question of internal audits, assessment of project performance and, if necessary, corrective actions should be discussed in the revised PDD.

Response:

The clarification has been included in the final PDD.

3.4.3 Conclusion

With the revised PDD the monitoring plan fulfils all requirements for such type of projects. The discussed issues can be considered to be resolved.

3.5 Calculation of GHG Emissions

3.5.1 Findings

The project's spatial boundaries are correctly described.

All necessary parameters to monitor project emissions have been defined. The most relevant and likely operational characteristics and indicators to calculate project emissions and baseline emissions have been chosen. Default values are taken from IPCC and other international accepted sources or other public available literature.

Uncertainties in the GHG emissions estimates are addressed in the documentation. Additionally the calculation uses a conservative approach whenever possible.

But the discussion which greenhouse gases need to be considered in the PDD currently is not transparent enough.

Leakage calculations are obviously not considered but this should be discussed more distinguished.

The project will result in fewer GHG emissions than the baseline scenario.

The lower value of the emission reductions for the first year of the crediting period is due to a smaller production planned for this year in relation to the rest of the crediting period.

3.5.2 Issued CARs/CRs

Clarification Request No. 12 (CR 12):

A short argumentation should be added to the PDD why N_2O and CH_4 are not considered and monitored in this project and why this is part of the conservative approach of the project.

Response:

The necessary information has been inclded in the final revised PDD.

Clarification Request No. 17 (CR 17):

The information "direct" or "indirect" emissions should be included in the table under B 3 (page 20). Information why geogenic emissions need not to be considered in the PDD should be included in the PDD.

Response:

The necessary information has been inclded in the final revised PDD.

Clarification Request No. 18 (CR 18):

Risks and uncertainties for the GHG emission estimates should be described a little bit more detailed in the PDD.

Response:

The necessary information has been inclded in the final revised PDD.

Clarification Request No. 19 (CR 19):

It should be elaborated more detailed why only CO_2-emissions need to be considered in this project.

Response:

The necessary clarification has been inclded in the final revised PDD.

3.5.3 Conclusion

The GHG calculations are documented in a complete and transparent manner. Conservative assumptions have been used when calculating baseline emissions. Further the possible uncertainties in the GHG emission estimates are now properly addressed in the documentation.

The given responses to the indicated CRs are resolving all open issues. The project thus does fulfil all the requirements for JI projects completely.

3.6 Environmental Impacts

3.6.1 Findings

The analysis of the environmental impacts is sufficient. The project will improve the current environmental situation. Trans-boundary impacts do not exist.

According to the Ukrainian law such projects need permissions for each stage of the projects. Therefore an assessment of environmental impacts of the project has to be conducted but there is no format or project-specific requirement for an EIA in this case.

All relevant environmental impacts are listed sufficiently and transparently in the PDD.

3.6.2 Issued CARs/CRs

Clarification Request No. 9 (CR 9):

To demonstrate the (mostly) positive social and environmental effects of this project under the Kyoto Protocol, social parameters (number of employees, number of trained persons) should be included in the monitoring plan (additional to the already included parameters to be monitored) (annual values).

Response:

Environmental and social parameters will be monitored or be available for the montoring report.

3.6.3 Conclusion

The project fulfils all prescribed requirements completely. Open issues have been clarified sufficiently.

3.7 Local stakeholder process

3.7.1 Findings

There are no project-specific requirements how to conduct a Local Stakeholder Process for this project.

Nevertheless the relevant authorities have been consulted in this project. Only positive comments have been received.

The stakeholder consultation process in this project fits all Ukrainian requirements for local stakeholder consultation and thus meets also the basic requirements of stakeholder consultation under the Kyoto Protocol and the Marrakech Accords.

3.7.2 Issued CARs/CRs

No such requests have been issued.

3.7.3 Conclusion

The project fulfils all requirements completely.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project design document on its website for 30 days from July 3rd, 2006 to August 1st, 2006. Documents have been public available for commenting under the following link:
http://www.netinform.de/KE/Wegweiser/Guide2.aspx?ID=1879&Ebene1_ID=26&Ebene2_ID=541&mode=1

A second publishing according to the requirements of the JI supervisory committee has been carried out from October 27, 2006 to November 25, 2006. The relevant web link is:
http://www.netinform.de/KE/Wegweiser/Guide2.aspx?ID=2210&Ebene1_ID=26&Ebene2_ID=651&mode=1

Received Comments:

In the first publishing period, one comment has been received, but the annotator did not identify himself as member of an NGO or another officially accredited body. Only under this pre-condition comments need to be considered in the determination process. Thus the comment will not be made publicly available in the determination process. Nevertheless the given comment has been taken account during the determination process as far as relevant for the determination process and final determination opinion.

In the second publishing period, no comment has been received.

5 DETERMINATION OPINION

TÜV SÜD has performed a determination of "Switch from wet-to-dry process at Podilsky Cement, Ukraine" JI project in Kamyanets Podilsky in Ukraine. The determination was performed on the basis of all currently valid and relevant JI criteria.

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

The required Letters of Approval from the involved parties have been issued. The involved Parties have their Procedures and Guidelines for the JI projects published.

It is our opinion that the project meets all relevant UNFCCC requirements for JI. TÜV SÜD recommends this project for registration at the JI Supervisory committee.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 3 023 403 tons CO_{2e} (to be issued as ERUs) in the intended first crediting period from 2009 - 2012 (the first Commitment Period of the Kyoto Protocol lasts from 2008-2012), resulting in annual emission reductions of 755 851 tons CO_{2e}, represents a reasonable estimation using the assumptions given by the project documents.

The determination is based on the information made available to us and 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 during the registration process as JI project. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

Munich, 2007-01-25

Javier Castro

Deputy Head of Certification Body "Climate and Energy"

Munich, 2007-01-25

Thomas Kleiser

Responsible Project Manager

Annex 1 of 2

Determination Protocol

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

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	☑	The project is designed as a bi-lateral JI project with Ukraine as host country and Ireland as investor country. Ukraine: After the submission of a first version of the Final Determination Report the Ukrainian Letter of Approval (LoA) has been issued on 27 Dec. 2006. According to the information given in the PDD and received during the on-site audit all national and regional authorities that have been informed about the project have confirmed their assistance and the endorsement for the project. Ireland: The formal Letter of Approval (LoA) from Ireland as involved investor country has been

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			issued on 19 Jan 2007.
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)	☑	Table 2, Section B.2
3. The sponsor Party shall not aquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	☑	Article 5 requires "…Annex I Parties to having in place, no later than 2007, national systems for the estimation of greenhouse gas emissions by sources and removals by sinks." Article 7 requires "… Annex I Parties to submit annual greenhouse gas inventories, as well as national communications, at regular intervals, both including supplementary information to demonstrate compliance with the Protocol". Ireland has submitted its Initial Report on 19 Dec. 2006 http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/items/3765.php Ireland fulfils all obligations as requested in case the project will

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			run as second track JI project.
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)	☑	The project is additional to domestic actions in Ireland.
5. Parties participating in JI shall designate 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	☑	According to the information available on the UNFCCC website both countries have installed their Designated Focal Points. Furthermore National guidelines and procedures for approving JI projects have been published (see http://ji.unfccc.int/JI_Parties) Contact data Ukraine: "Ministry of Environmental Protection, Mr. Taras Bebeshko, Director, 35, Uritskogo Str. Kiev 1 Tel: (380-44)206-3100 Fax: (380-44)206-3107 bebeshko@menr.gov.ua. On December 29th, 2005 the Ukrainian government adopted national procedures for the consideration and approval of JI projects. These procedures had

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			to be approved finally by the Cabinet of Ministers of Ukraine. On February 22nd, 2006 the Cabinet of Ministers in Ukraine approved the decree #206, that submitted the order of evaluation and implementation of the JI projects in the frames of Kyoto protocol. <u>Contact data Ireland:</u> Environmental Protection Agency Regional Inspectorate, McCumiskey House Richview, Clonskeagh Road Dublin 14 Ireland Mr. Ger Hussey Senior Administrator, Emissions Trading Unit Phone: +353 1 268 0100 Fax: +353 1 268 0199 Email: mexadmin@epa.ie Guidelines and procedures are available at: http://ji.unfccc.int/JI_Parties/Parti

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			es/Documents/Ireland01.pdf
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	☑	The Ukraine is a Party (Annex I Party) to the Kyoto Protocol and has ratified the Kyoto Protocol at April 12th, 2004.
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	☑	This issue can not be answered finally as it is out of the influence of the project participants. In the Initial Report submitted by Ukraine on 29. Dec. 2006 the AAUs are quantified with: 925 362 174.39 (x 5) tCO2-e. (compare http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/items/3765.php)
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	☑	The designed system of the national registry has been outlined in the Initial Report (see link above). This issue is out of the influence of the project owner. The National Registry is not a direct requirement for project registration.

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
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	☑	A project documentation consisting further information such as a baseline study, a monitoring plan, information concerning environmental impacts of the project, concerning stakeholder consultations and concerning the financial background of the project has been submitted end of June 2006. During the on-site audits (July 18th and July 19th, 2006) the auditor was allowed to look all relevant documents. Additional information was handed out to the validator in form of copies and .doc/.pdf documents during the on-site audit.
10. The project desing 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	☑	The PDD has been made public available via TÜV SÜD´s website for calling on stakeholders to comment CDM/JI projects www.netinform.net module "climate and energy" in the period from July 3rd, 2006 to August 1st, 2006 (first version) and from October 27, 2006 to

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			November 25, 2006. The web links are: http://www.netinform.de/KE/Wegweiser/Guide2.aspx?ID=1879&Ebene1_ID=26&Ebene2_ID=541&mode=1 and http://www.netinform.de/KE/Wegweiser/Guide2.aspx?ID=2210&Ebene1_ID=26&Ebene2_ID=651&mode=1 The publishing has been announced worldwide via the Climate-L server. This is a widespread approach used for many such Global Stakeholder Processes. One comment has been received.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by 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	Marrakech Accords, JI Modalities, §33(d)	See below	Table 2, Section F

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
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	See below	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	See below	Table 2, Section B.2
14. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	See below	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan	Marrakech Accords, JI Modalities, §33(c)	See below	Table 2, Section D

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Table 2: Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity The project design is assessed.					
A.1. Project Boundaries Project boundaries are the limits and borders defining the GHG emission reduction project.					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	1-4, 14	DR, I	The boundaries of the project are clearly defined in Figure 6: "Sources of emissions and project boundaries". But as the emissions in the grid are only indirectly influenced by the project and the measures on-site at Podilsky Cement Plant, the real project boundaries are better described when taking out the "Ukrainian Grid" from the project boundaries. **Clarification Request No. 1:** The Ukrainian Grid should be taken out from the project boundaries. Furthermore a plan of the site should be included in the PDD (as an annex) illu-strating the current situation and also the project situation. In this plan the project	**CR 1**	☑

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			relevant equipment should be marked (with colours for example) and the location for the new installations should be marked.		
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1-4, 14	DR, I	The project´s system (components and facilities used to mitigate GHG) are clearly described in verbal form and with drawings in chapter A.4.2 and furthermore in chapter B.3 as table and with a drawing. But see comment above.	☑	☑
A.2. Technology to be employed Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.					
A.2.1. Does the project design engineering reflect current good practices?	1-4, 14, 27, 30	Dr, I	Yes. The switch from conventional technology of cement production in Ukraine (based on the wet) process to the dry process as more advanced process which is applied in most Western and Mid European countries already since around 30 years is considered as current good practice. In case of Podilsky	☑	☑

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			this switch already would have been possible years ago but could not be realised especially as result of missing experience with this technology and lack of money for this big investment. The detailed design characteristics for the new equipment are not finally designed at this stage of the project but a worldwide tender already has been started.		
A.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?	1-4, 14, 27, 30	Dr, I	Yes, the project uses state of the art technology (dry process technology already applied in the most developed countries under comparable conditions of the moisture content of the raw materials) and results in a significantly better performance than the commonly used technologies (wet process) in Ukraine.	☑	☑
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1-4, 14, 27, 30	Dr, I	No, the project uses the most efficient technology to produce cement in such an amount on the market. There is no other technology available which could substitute the technology applied in the project case within the project period. Such an investment as the envisaged one is normally done	☑	☑

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			only once in 20 years.		
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1-4, 12, 13, 18, 24, 27, 30, 33	Dr, I	Yes. As a new technology is applied in this project extensive initial training and maintenance efforts are required in the first phase after the implementation of the project. In this phase the responsibility will remain in the hands of the technology supplier – afterwards Podilsky Cement itself or external companies will take over the responsibility.	☑	☑
A.2.5. Does the project make provisions for meeting training and maintenance needs?	1-4, 12, 13, 18, 24, 27, 30, 33	Dr, I	Yes. Although the project itself will start not until January 2009, there is already a plan and schedule to meet the training and maintenance needs. Information is given for example on page 19 under barriers. **Clarification Request No. 2:** Information concerning the responsibilities for trainings and maintenance should be included in the PDD (in chapter D - moni-	**CR 2**	☑

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			toring).		
B. Project Baseline The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.					
B.1. Baseline Methodology It is assessed whether the project applies an appropriate baseline methodology.					
B.1.1. Is the discussion and selection of the baseline methodology transparent?	1-4, 5, 6, 7, 10, 16, 17, 20, 21-23, 26, 33, 34	Dr, I	Yes. Currently there are three CDM-methodologies (ACM0003 – focussing on the use of alternative fuels in cement manufacturing), ACM0005 – focussing on increasing the blend in cement production) and AM0024 – focussing on waste heat recovery and utilization for power generation at cement plants) available. None of these methodologies do directly fit the requirements of this project (switch from wet-to dry-process). Thus a project-specific methodology needed to be applied. But where it was feasible parts of the methodology – for baseline	☑	☑

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			setting, additionality discussion and monitoring concept – have been included in the project-specific baseline approach.		
B.1.2. Does the baseline methodology specify data sources and assumptions?	1-4	Dr, I	Yes, all data sources (for fuel consumption, electricity consumption, kiln economy, carbon emission factor of the Ukrainian grid, but also economic basis data etc.) and assumptions (operating hours, net caloric value of the consumed fuels, moisture content of the raw materials) have been specified clearly in the operating hours of the plant etc.)	☑	☑
B.1.3. Does the baseline methodology sufficiently describe the underlying rationale for the algorithm/formulae used to determine baseline emissions (e.g. marginal vs. average, etc.)	1-4, 5, 8, 9, 10, 16, 17, 24	Dr, I	The decisive parameters to calculate the baseline emissions are the baseline kiln economy which is based on an average value from the measured values of the years 2000 – 2004, the baseline electricity consumption in relation to produce clinker (to be conservative measured value from 2005 is used as in 2005 a new compressor has been installed) and baseline specific fuel consumption for drying the coal with a heat generator (the new coal mill will be commissioned in autumn 2006). The	**CR 3**	☑

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			algorithm/formulae to determine baseline emissions are clearly described in chapter D.1.1.4. But the argumentation why different years have been chosen to determine the decisive parameters should be elaborated more detailed in the PDD considering the requirement always to be conservative in view of calculated emission reductions. **Clarification Request No. 3:** Information should be added to the PDD why the years 2002 – 2004 have been chosen to determine baseline kiln economy and the year 2005 to determine the specific electricity consumption The conservativeness of the approach has to be explained.		
B.1.4. Does the baseline methodology specify types of variables used (e.g. fuels used, fuel consumption rates, etc)?	1-4, 5, 8, 9, 10, 16, 17,	Dr, I	Yes, all types of variables and the units are clearly described in chapter D.1.1.4.		

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	24				
B.1.5. Does the baseline methodology specify the spatial level of data (local, regional, national)?	1-4, 5, 8, 9, 11,16, 17, 24, 31-33, 35	Dr, I	Yes, the spatial level of the data is clearly described. It is explained where the data come from and/or whether they are measured locally or come from national sources. **Clarification Request No. 4:** The source of the carbon emission factor for the Ukrainian electricity grid has to be clearly identified in the PDD – chapter D.1.1.4.	**CR 4**	☑
B.2. Baseline Determination The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1-4	DR, I	Yes, the discussion of the baseline in the PDD is clear and transparent. All possible alternatives for the project are discussed and elaborated in detail endorsed by additional submitted documents (financial planning) and/or the information given during the on-site audits. **Clarification Request No. 5:**	**CR 5**	☑

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			To prove and confirm the discussion under B.1. "Description and Justification of the baseline" it is important that it can be demonstrated with written documents that there is no link between the "first project "switch from natural gas to coal" in 2006 (information concerning the board decision on this project) and the JI-project (switch from wet- to dry-process). During the on-site audit it was confirmed by the responsible state authority that no environmental obligations force Podilsky Cement to go for the JI project.		
B.2.2. Has the baseline been determined using conservative assumptions where possible?	1-4, 20, 24	Dr, I	Mostly yes, but see CR 3 and 4.	**CR 3, CR 4**	☑
B.2.3. Has the baseline been established on a project-specific basis?	1-4, 20, 24, 25, 27, 30	Dr, I	Yes, the also comments under B.1.1.	☑	
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political	1-4, 20, 24,	Dr, I	Yes. The baseline scenario takes into account development of fuel prices in Ukraine,	☑	☑

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aspirations?	25, 27, 30, 31, 32, 35		capital availability in Ukraine, the current situation concerning applied technologies in the Ukrainian cement sector as well as Ukrainian environmental requirements (legislation).		
B.2.5. Is the baseline determination compatible with the available data?	1-4, 20	Dr, I	Yes. All data used for the baseline determination are clearly, re-traceably, transparently and plausible given in the PDD or in the attached documents. All applied data for baseline determination could be confirmed during the on-site audits.	☑	☑
B.2.6. Does the selected baseline represent a likely scenario in the absence of the project?	1-4, 20	Dr, I	Yes, it is clearly, re-traceably, transparently and plausible described in the PDD and attached documents that the selected baseline would be the most likely scenario in the absence of the project.	☑	☑
B.2.7. Is it demonstrated that the project activity itself is not a likely baseline scenario (e.g. through (a) a flow-chart or series of questions that lead to a narrowing of potential baseline options, (b) a	1-4, 6, 7, 16, 17,	Dr, I	Yes. This is demonstrated clearly and transparently by using the "Tool for the demonstration of additionality (version 02) –	☑	☑

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qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely, (c) a qualitative or quantitative assessment of one or more barriers facing the proposed project activity or (d) an indication that the project type is not common practice in the proposed area of implementation, and not required by a Party's legislation/regulations)?	20		the "additionality tool" issued by the UNFCCC-EB for checking the additionality of CDM projects to demonstrate that the project activity is not a likely baseline scenario. Potential baseline options are clearly elaborated and described in the PDD, clear reasons why the chosen baseline as non-project option is the most likely baseline are given in the PDD and different barriers for the project have been plausibly described in the PDD. Its transparently proven that the project scenario is: • Not common practice and not required by legislation in Ukraine • There is a lack of capital at Podilsky cement to do an investment of clearly more than 100 Mio. Euros; to invest in such a project using only credits would be too risky for Podilsky Cement and • There is no conduct knowledge and experience with this technology at Podilsky Cement.		

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			So it is transparently and re-traceably shown in the PDD and corresponding documents and calculation sheets that the project scenario is not a realistic potential baseline scenario for this project.		
B.2.8. Have the major risks to the baseline been identified?	1-4	Dr, I	Yes; the major risks are described in the PDD. Nevertheless a table should be included in chapter B highlighting and evaluating the different risks for this project. **Clarification Request No. 6:** The different risks for the project should be summarized and evaluated in a separate table.	**CR 6**	☑
B.2.9. Is all literature and sources clearly referenced?	1-4	Dr, I	Mostly yes in form of footnotes. It should be considered whether a separate annex listing the different documents to establish the baseline could be added also as separate annex to the PDD to make the process more descriptive.	☑	☑

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C. Duration of the Project/ Crediting Period It is assessed whether the temporary boundaries of the project are clearly defined.					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1-4	Dr, I	Yes, the starting date of the project is defined as date of commissioning – this is clearly described in the PDD. In this case the starting date coincides with the date of starting the crediting period. This is a possible approach although often the day of starting to develop a pin is defined as starting date of the project. The operational lifetime is defined as "at least 30 years". **Clarification Request No. 7:** An additional sentence should be added to prove that these 30 years are a realistic and conservative assumption.	**CR 7**	☑
C.1.2. Is the project's crediting time clearly defined?	1-4, 12, 13		Mostly yes, it lasts from 2009 to 2012. **Clarification Request No. 8:** Day and month of starting and end of the crediting period should be added to the	**CR 8**	☑

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			PDD. A time schedule for the project highlighting the different milestones should be submitted to the validator to prove that the starting date has been chosen on a realistic basis.		
D. Monitoring Plan The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.					
D.1. Monitoring Methodology It is assessed whether the project applies an appropriate baseline methodology.					
D.1.1. Does the monitoring methodology reflect good monitoring and reporting practices?	1-4, 7, 18, 20-23, 27, 30, 33	DR, I	Yes. The monitoring methodology has been developed on a project-specific basis using parts of the monitoring concept from approved CDM methodologies for the cement sector. All emissions are monitored according to the WBSCD standard "CO2 Emissions Monitoring and Reporting Protocol for the Cement Industry". This is a very good	☑	☑

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			approach. But nevertheless the monitoring plan has to be elaborated a little bit more detailed – see CRs below.		
D.1.2. Is the selected monitoring methodology supported by the monitored and recorded data?	1-4, 7	DR, I	Yes. The monitoring methodology is supported by data which can and will be recorded by Podilsky Cement.	☑	☑
D.1.3. Are the monitoring provisions in the monitoring methodology consistent with the project boundaries in the baseline study?	1-4, 7, 24	DR, I	Yes. The monitoring concept and provisions are in line with the project boundaries.	☑	☑
D.1.4. Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?	1-4, 7, 24	Dr, I	There are no direct needs to monitor data outside of the project boundaries. **Clarification Request No. 9:** To demonstrate the (mostly) positive social and environmental effects of this project under the Kyoto protocol additional to the already included parameters to be monitored social Parameters (number of employees, number of trained persons)	**CR 9**	☑

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			should be included in the monitoring plan (annual values). Furthermore environmental parameters (for example emissions of particles, NO_x, SO_2) or paid environmental taxes (on a confidential basis) should be included in the monitoring plan. It furthermore should be checked whether the parameter "carbon emission factor of the Ukrainian Grid" should be included inn the monitoring plan, too in case new studies will be available which provide more concrete and recent data than the Dutch Erupt Guidelines.		
D.1.5. Does the monitoring methodology allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions?	1-4, 715, 24-25, 28-29,	DR, I	Yes, but additional information, some clarifications and corrections have to be included in the chapters under D. **Clarification Request No. 10:** But the following information/clarifications/ corrections should be included in the PDD to make the description of the monitoring concept more transparent and demonstrate the conservative approach: • It should be explained that	**CR 10**	☑

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			emissions from heat generators are excluded from the monitoring and thus from the calculations (they are only used in the start-up phase – influence?) • Comment should be added to the monitoring plan that in case the old kilns need to be used again this and all associated parameters will be monitored, too and the monitoring concept will be adjusted accordingly • I should be mentioned that the electricity consumption of the coolers is included in the electricity consumption of the kiln • Furthermore potential changes in the fuel used should be monitored, too • PRCy for minerals additives in formula 14 has to be changed in PRCMINy • PRCy in formula 12 refers to coal not cement • Clarifying: $Cement_{produced} = Cement\ sold - stock_{beginning\ of\ the\ year} - stock_{end\ of\ the}$		

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			year		
D.1.6. Is the monitoring methodology clear and user friendly?	1-4	DR, I	Yes, under the assumption that all requested clarifications will be included in the monitoring plan.		☑
D.1.7. Does the methodology mitigate possible monitoring errors or uncertainties addressed?	1-4	DR, I	No. **Corrective Action Request No. 1:** In the actual PDD no information is available concerning monitoring errors and uncertainties. All requested in formation defined from EB 23 – see link: http://cdm.unfccc.int/Reference/Guidclarif/EB23_%20para%2024_guidance_monitoring.pdf should be included in a revised PDD version.	**CAR 1**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.2. Monitoring of Project Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	1-47, 18, 24, 27	DR, I	Yes, but not detailed enough. **Clarification Request No. 11:** Information about the data flow, monitoring responsibilities (functions in the organi-gram), management structure, measuring of data, a drawing with measuring points (which parameter is measured where), detailed description of measurement procedures for each parameter, archiving of the data (where, how long) should be included in the monitoring plan. According to the information received during the on-site audit an internal quality assurance system (certification according to Ukrainian standard … and ISO 17025) based on work instructions will be installed or is mostly already installed at Podilsky Cement. This system should be mentioned and described in the PDD.	**CR 11**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.2.2. Are the choices of project GHG indicators reasonable?	1-4	Dr, I	Yes. **Clarification No. 12:** A short argumentation should be added to the PDD why N_2O and CH_4 are not considered and monitored in this project and why this is part of the conservative approach of the project.	**CR 12**	☑
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	1-4	Dr, I	Yes. The specified GHG indicators all can be Monitored/ measured.	☑	☑
D.2.4. Will the indicators enable comparison of project data and performance over time?	1-4	DR, I	Yes, the parameters will allow to assess the performance of the project aver time. Internal project performance reviews should be part of the monitoring concept.		
D.3. Monitoring of Leakage It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1-4, 7	DR, I	No. It is described re-traceably and transparent-ly in the PDD that there is no need to moni-	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			tor leakage in this project. This is a conservative approach.		
D.3.2. Have relevant indicators for GHG leakage been included?	1-4, 7	DR, I	No, see comment above.	☑	☑
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1-4, 7	DR, I	No, see comment above.	☑	☑
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	1-4, 7	DR, I	No, see comment above.	☑	☑
D.4. Monitoring of Baseline Emissions It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline emissions during the crediting period?	1-4, 7, 25	Dr, I	Yes, but see also comments under CR10, CR 11 and CAR 1.	**CR10, CR 11, CAR 1**	☑
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	1-4, 7, 25	DR, I	Yes. But see comments under CR 3.	**CR 3**	☑
D.4.3. Will it be possible to monitor the specified baseline indicators?	1-4, 7, 25	Dr, I	Yes, it will be possible to monitor the specified baseline indicators.	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.5. Monitoring of Environmental Impacts It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.					
D.5.1. Does the monitoring plan provide for the collection and archiving of relevant data on environmental impacts?	1-4, 7, 18, 24, 27, 31, 32, 33	DR, I	No, currently not. See comment under CR 9.	**CR 9**	☑
D.5.2. Will it be possible to monitor the specified environmental impact indicators?	1-4, 25	DR, I	No, currently not. See comment under CR 9.	**CR 9**	☑
D.6. Project Management Planning It is checked that project implementation is properly prepared for and that critical arrangements are addressed.					
D.6.1. Is the authority and responsibility of project management clearly described?	1-4	DR, I	The description currently is not detailed and clear enough. See comment under CR 11.	**CR 11**	☑
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and	1-4	Dr, I	No, see CR 11	**CR 11**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
reporting clearly described?					
D.6.3. Are procedures identified for training of monitoring personnel?	1-4, 25	Dr, I	No. **Clarification request No. 13:** A training program for the new technology with responsibilities should be included in the PDD (monitoring plan).	**CR 13**	☑
D.6.4. Are procedures identified for emergency preparedness where emergencies can result in unintended emissions?	1-4, 7, 18, 25, 30	Dr, I	No. **Clarification request No. 14:** Questions of procedures for emergency cases under this project should at least be discussed in the PDD. See also annotations under CR 10 concerning use of other fuels or utilization of the old kilns.	**CR 14**	☑
D.6.5. Are procedures identified for calibration of monitoring equipment?	1-4, 7, 18, 25, 30	Dr, I	No, see comments under CAR 1.	**CAR 1**	☑
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	1-4, 7, 18, 25, 30	DR, I	No. **Clarification No. 15:** Questions of maintenance after project implementation should be included in the	**CR 15**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			revised PDD.		
D.6.7. Are procedures identified for monitoring, measurements and reporting?	1-4	DR, I	Not detailed enough, see also comments under CR 11.	**CR 11**	☑
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	1-4	DR, I	Not detailed enough, see also comments under CR 11.	**CR 11**	☑
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	1-4	DR, I	No, see also comments under CR 1. Information how to deal with data adjustment and monitoring errors should be discussed and described in the PDD.	**CR 1**	☑
D.6.10. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1-4	DR, I	No. **Clarification Request No. 16:** The question of internal audits, assessment of project performance and, if necessary, corrective actions should be discussed in the revised PDD.	**CR 16**	☑
D.6.11. Are procedures identified for project performance reviews?	1-4	DR, I	See comments under CR 16.	**CR 16**	☑
D.6.12. Are procedures identified for corrective actions?	1-4	DR, I	See comments under CR 16.	**CR 16**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E. Calculation of GHG Emissions by Source It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.					
E.1. Predicted Project GHG Emissions The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	1-47-9, 16-17, 24, 28-29	DR, I	In principle yes, but the question of direct and indirect calculations should be elaborated more detailed. **<u>Clarification Request No. 17:</u>** The information "direct" or "indirect" emissions should be included in the table under B 3 (page 20). Information why geogenic emissions need not to be considered in the PDD should be included in the PDD.	**CR 17**	☑
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	1-47-9,	Dr, I	Yes. All applied formula are mentioned in chapter D of the PDD and .xls sheets for the	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	16-17, 24, 28-29		calculations have been submitted to the validator"		
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1-47-9, 16-17, 24, 28-29	Dr, I	Yes, under the pre-condition that all necessary clarifications will be solved as requested.	☑	☑
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1-47-9, 16-17, 24, 28-29	Dr, I	Not detailed enough. **Clarification Request No. 18:** But risks and uncertainties for the GHG emission estimates should be described a little bit more detailed in the PDD.	**CR 18**	☑
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	1-47-9, 16-	Dr, I	In principle yes.. **Clarification Request No. 19:** But it should be elaborated more detailed why only CO2-emissions need to be	**CR 19**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	17, 24, 28-29		considered in this project.		
E.2. Leakage Effect Emissions It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	1-4	Dr, I	Not relevant in this project.	☑	☑
E.2.2. Have these leakage effects been properly accounted for in calculations?	1-4	Dr, I	See above.	☑	☑
E.2.3. Does the methodology for calculating leakage comply with existing good practice?	1-4	Dr, I	See above.	☑	☑
E.2.4. Are the calculations documented in a complete and transparent manner?	1-4	Dr, I	See above.	☑	☑
E.2.5. Have conservative assumptions been used when calculating leakage?	1-4	Dr, I	See above.	☑	☑
E.2.6. Are uncertainties in the leakage estimates properly addressed?	1-4	Dr, I	See above.	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E.3. Baseline Emissions The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	1-4, 7, 20, 24-25, 28-29	Dr, I	Yes, all data will be based on historic values, which so far as possible have been verified during the validation process.	☑	☑
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	1-4, 7, 20, 24-25, 28-29	Dr, I	Yes – but see also CR 1.	☑	☑
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	1-4, 7, 20, 24-25, 28-	Dr, I	Yes, see also information given under E.1.2..	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	29				
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	1-4, 7, 8-9, 15, 20, 24-25, 28-29	Dr, I	Yes; under the pre-condition that all CRs and CARs will be solved and transparent information will be included why only CO_2 is considered in the calculations, why geogenic emissions need not to be considered, also heat generators etc.	☑	☑
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	1-4	Dr, I	Yes, under the pre-condition that the CRs mentioned above are all solved.	☑	☑
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	1-4		Yes.	☑	☑
E.4. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1-4, 24-25,		Yes. But there is a mistake in the PDD in Chapter	**CAR 2**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	28-29		E. **Corrective Action Request No. 2:** The titles of chapter E.1 and E.4 have to be exchanged. Otherwise project emissions are higher than baseline emissions.		
F. Environmental Impacts Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	1-4, 14, 19, 31-32, 35	Dr, I	Environmental impacts of the project are described in chapters F1 and F 2 of the PDD. **Clarification Request No. 20:** There should be a link to national environmental laws/regulations in the PDD. It should be declared which environmental assessments need to be conducted according to the national law to get the approval for this projects and which are the requirements in front of the implementation of the project, during construction phase and after project implementation.	**CR 20**	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1-4, 14, 19, 31-32		See comment above!	**CR 20**	☑
F.1.3. Will the project create any adverse environmental effects?	1-4, 14, 19, 31-32		No, but this should be explained, reasoned and highlighted a little bit more in the PDD.	☑	☑
F.1.4. Are trans-boundary environmental impacts considered in the analysis?	1-4, 14, 19, 31-32		No, the distance of the project to boundaries of neighboured countries is too far to generate trans-boundary impacts of this project.	☑	☑
F.1.5. Have identified environmental impacts been addressed in the project design?	1-4, 14, 19, 31-32		So far as necessary, yes.	☑	☑
F.1.6. Does the project comply with environmental legislation in the host country?	1-4, 14, 19, 31-		Yes.	☑	☑

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	32				

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Table 3: Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
Corrective Action Request No. 1 In the actual PDD no information is available concerning monitoring errors and uncertainties. All requested in formation defined from EB 23 – see link: http://cdm.unfccc.int/Reference/Guidclarif/EB23_%20para%2024_guidance_monitoring.pdf should be included in a revised PDD version.	D.1.7	Monitoring errors and uncertainties have been included in table 12 in Section D.3 of the PDD.	☑ CAR 1 has been solved as requested by the validator.
Corrective Action Request No. 2: The titles of chapter E.1 and E.4 have to be exchanged. Otherwise project emissions are higher than baseline emissions	E.4.1	Corrected.	☑ This mistake has been corrected in the final PDD.
Clarification Request No. 1:	A.1.1		☑

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
The Ukrainian Grid should be taken out from the project boundaries. Furthermore a plan of the site should be included in the PDD (as an annex) illustrating the current situation and also the project situation. In this plan the project relevant equipment should be marked (with colours for example) and the location for the new installations should be marked.		Ukrainian grid has been taken out of project boundaries. A preliminary plant layout has been included in the PDD.	CR 1 has been solved as requested by the validator. The project boundaries have been adjusted as requested.
Clarification Request No. 2: Information concerning the responsibilities for trainings and maintenance should be included in the PDD (in chapter D - monitoring).	A.2.5	Training and maintenance activities have been included in Section A.4.2 of the PDD.	☑ The requested additional information has been included in the final revised PDD.
Clarification Request No. 3: Information should be added to the PDD why the years 2002 – 2004 have been chosen to determine baseline kiln economy and the year 2005 to determine the specific	B.1.3	The kiln economy is a stable figure and only has small variations. Therefore an average based on historic values can be used to estimate the baseline kiln economy. In order to be conservative the average three year value of 6.771 has been reduced to 6.684	☑ The validator can agree to the answer of the project developer and the argumentation in the final PDD.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
electricity consumption The conservativeness of the approach has to be explained.		GJ/t clinker (=1600 kCal/kg clinker). The resulting lower baseline emissions have been adjusted accordingly. The baseline electricity consumption would increase over the years due to wear out of the equipment. Taking a fixed value is more conservative. A remark has been included in section D.1.	
Clarification Request No. 4: The source of the carbon emission factor for the Ukrainian electricity grid has to be clearly identified in the PDD – chapter D.1.1.4.	B.1.5	Remark included.	☑ The requested remark has been included in the final revised PDD.
Clarification Request No. 5: To prove and confirm the discussion under B.1. "Description and Justification of the baseline" it is important that it can be demonstrated with written documents that there is no link between the "first project "switch from natural gas to coal" in 2006 (information concerning the board decision on this project) and the JI-	B.2.1	A statement by CRH has been submitted to the Validator.	☑ The required information has been submitted to the validator.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
project (switch from wet- to dry-process).			
Clarification Request No. 6: The different risks for the project should be summarized and evaluated in a separate table.	B.2.8	Risks are included in Section A.4.2.	☑ The necessary information and discussion has been included in the final PDD version.
Clarification Request No. 7: An additional sentence should be added to prove that these 30 years for the lifetime of the equipment are a realistic and conservative assumption.	C.1.1	An overview of lifetime of other kiln is given in section C.1.1	☑
Clarification Request No. 8: Day and month of starting and end of the crediting period should be added to the PDD. A time schedule for the project highlighting the different milestones should be submitted to the validator to prove that the starting date has been chosen on a realistic basis.	C.1.2	Day and month have been included. A time schedule has been submitted to the validator. Please note that the starting date mainly depends on registration of the project as a JI project. Also see remark inserted in Section C.1.	☑

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
Clarification Request No. 9: To demonstrate the (mostly) positive social and environmental effects of this project under the Kyoto protocol additional to the already included parameters to be monitored social Parameters (number of employees, number of trained persons) should be included in the monitoring plan (annual values). Furthermore environmental parameters (for example emissions of particles, NO_x, SO_2) or paid environmental taxes (on a confidential basis) should be included in the monitoring plan. It furthermore should be checked whether the parameter "carbon emission factor of the Ukrainian Grid" should be included inn the monitoring plan, too in case new studies will be available which provide more concrete and recent	D.1.4	Social parameters will be monitored. See remark in Section D.1. Environmental parameters will be monitored. See remark in section D.1. A remark has been included that the baseline will be updated once a more recent version of the Ukrainian grid baseline is available.	☑

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
data than the Dutch Erupt Guidelines.			
Clarification Request No. 10: But the following information/clarifications/ corrections should be included in the PDD to make the description of the monitoring concept more transparent and demonstrate the conservative approach: • It should be explained that emissions from heat generators are excluded from the monitoring and thus from the calculations (they are only used in the start-up phase – influence?) • Comment should be added to the monitoring plan that in case the old kilns need to be used again this and all associated parameters will be monitored, too and the	D.1.5	• A remark has been included in Section A.4.2 and Section D.1. • A remark has been included in Section D.1.	☑ The requested clarifications and corrections as well as additional information has been included in the final revised PDD.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
monitoring concept will be adjusted accordingly • I should be mentioned that the electricity consumption of the coolers is included in the electricity consumption of the kiln • Furthermore potential changes in the fuel used should be monitored, too • PRCy for minerals additives in formula 14 has to be changed in PRCMINy • PRCy in formula 12 refers to coal not cement • Clarifying: $Cement_{produced} = Cement_{sold} – stock_{beginning\ of\ the\ year} - stock_{end\ of\ the\ year}$		• A footnote has been included in Section B.3 • A remark has been included in Section D.1. • Corrected • Corrected • Direct measurement of cement production is not accurate. Therefore the amount of cement produced equals the cement that is sold. This number should be corrected by a change in on-site stocks as there is time delay between production and sales, which is reflected in the formula.	

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
Clarification Request No. 11: Information about the data flow, monitoring responsibilities (functions in the organigram), management structure, measuring of data, a drawing with measuring points (which parameter is measured where), detailed description of measurement procedures for each parameter, archiving of the data (where, how long) should be included in the monitoring plan. According to the information received during the on-site audit an internal quality assurance system (certification according to Ukrainian standard … and ISO 17025) based on work instructions will be installed or is mostly already installed at Podilsky Cement. This system should be mentioned and described in the PDD.	D.2.1	Required information is included in Section D.2 and D.3. of the final PDD. The monitoring plan will be finally updated prior to first verification.	☑ The argumentation is conclusive and can be accepted by the validator.

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
Clarification No. 12: A short argumentation should be added to the PDD why N_2O and CH_4 are not considered and monitored in this project and why this is part of the conservative approach of the project.	D.2.2	Clarification included in section B.3.	☑ The argumentation is given in the final PDD.
Clarification request No. 13: A training program for the new technology with responsibilities should be included in the PDD (monitoring plan).	D.6.3	Clarification included in section A.4.2.	☑ Additional information has been submitted to the validator and is included in the final PDD as requested.
Clarification request No. 14: Questions of procedures for emergency cases under this project should at least be discussed in the PDD. See also annotations under CR 10 concerning use of other fuels or utilization of the old kilns.	D.6.4	Clarification included in section A.4.2.	☑ The clarification is given in the final PDD.
Clarification No. 15: Questions of maintenance after	D.6.6		☑ Maintenance is addressed and clarified

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
project implementation should be included in the revised PDD.		Clarification included in section A.4.2.	in the final PDD.
Clarification Request No. 16: The question of internal audits, assessment of project performance and, if necessary, corrective actions should be discussed in the revised PDD.	D.6.10	Clarification included in section D.3.	☑ The requested information on training and monitoring procedures is included in the final revised PDD.
Clarification Request No. 17: The information "direct" or "indirect" emissions should be included in the table under B 3 (page 20). Information why geogenic emissions need not to be considered in the PDD should be included in the PDD.	E.1.1	Clarification included in section B.3. Clarification included in section B.3.	☑ The requested information is given in the final revised PDD.
Clarification Request No. 18: But risks and uncertainties for the GHG emission estimates should be described a little bit more detailed in the PDD.	E.1.4	Clarification included in section E.6.	☑ More detailed information as requested has been added to the final revised PDD.
Clarification Request No. 19:	E.1.5		☑

Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Determination conclusion
It should be elaborated more detailed why only CO2-emissions need to be considered in this project.		Clarification included in section B.3.	The requested more detailed elaboration is included in the final revised PDD.
Clarification Request No. 20: There should be a link to national environmental laws/regulations in the PDD. It should be declared which environmental assessments need to be conducted according to the national law to get the approval for this projects and which are the requirements in front of the implementation of the project, during construction phase and after project implementation	F.1.1	Clarification included in section F	☑ The requested additional information is included in the final PDD

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Annex 2 of 2

Determination Reference List

Reference No.	Document or Type of Information
1	On-site interviews in the office of “JSC Podilsky Cement JSC” and visit of the plant site inclusive linked external sites (natural deposit for limestone and clay with transmission line); conducted by TÜV SÜD lead auditor on July 18th, and 19th, 2006 with a representative of the project developer; further representatives of JSC Podilsky Cement as well as representatives of Irish company CRH (mother company of JSC Podilsky cement): Temporary or full-time participating in the audits: Validation team on-site: Thomas Kleiser — TÜV SÜD Industrie Service GmbH, Munich (Lead-Auditor) Interviewed persons: Semen Darchuk — JSC Podilsky Cement (Chairman, Director) Eamon Geraghty — CRH (Technical Director) Yergen Groza — Global Carbon B.V. (PDD Developer, Consultant) Marsha Donnelly — CRH (Member of CRH team for development of PDD) Damian Fitzmaurice — JSC Podilsky Cement (Deputy Chairman) Iryna Makovska — JSC Podisky Cement (Responsible Manager for JI at JSC Podilsky Cement) Vasyl Buryak — JSC Podisky Cement (Environmental Issues) Sergey Kivilska — JSC Podilsky Cement (Translation) Furthermore two representatives of Khmelnitsky Oblast responsible for environmental assessment of the operation of Podilsky cement have been interviewed on July 19th, 2006 during their annual inspection of Podilsky Cement.
2	First Draft PDD of “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, JI project in Ukraine; Version 1.0; dated June 23rd, 2006

Reference No.	Document or Type of Information
3	PDD for Global Stakeholder Consultation of “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, JI project in Ukraine; Version 1.3; dated July 3rd, 2006
4	Final PDD of “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, JI project in Ukraine; Version 2.0; dated August 29th, 2006
5	Validation and Verification Manual, IETA/World Bank (PCF), http://www.vvmanual.info –determination protocol and report
6	Reports of first five Meetings of the JI Supervisory Committee (ji.unfccc.int)
7	Approved large scale CDM methodologies referring to cement plants (AM0024, AM0033, ACM0003), ACM0005); information on baseline setting and monitoring plans for cement plants
8	IPCC: Revised 1996 Guidelines for National Greenhouse Gas Inventories, Reference Manual, Table 1- 13, page 1.45
9	IPCC: 2000, Good Practice Guidance for National Greenhouse Gas Inventories
10	Annex 2 of the PDD: Baseline information - “Capacity of wet and dry kilns; determination of baseline factors”
11	Annex 4 of the PDD: Letter from head of Khmelnitsky Oblast State Administration as main stakeholder documenting the support of the oblast for this project; dated June 26th, 2006
12	Preliminary Time schedule for the implementation of the of “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, JI project in Ukraine
13	Annex 7 of the PDD: Updated time schedule for the implementation of the of “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, JI project in Ukraine, submitted to the validator on July 19th, 2006
14	Annex 8 of the PDD: Preliminary Plant Layout for “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, JI project in Ukraine, submitted to the validator on July 19th, 2006
15	Spreadsheets for calculating the CO2 emissions reductions of “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, July 2006
16	Financial plan “Switch from wet-to-dry process at Podilsky Cement, Ukraine”, JI project in Ukraine, preliminary budget”

Reference No.	Document or Type of Information
17	Board decision concerning Non-Approval of Kiln Project; 2006- demonstrating the impossibility to implement the project without re-financing with ERU-revenues.
18	Training program for Podilsky Cement in 2006 (as example demonstrating the quality and safety assurance measures of Podilsky cement)
19	Information on the environmental license for Podilsky Cement (emission limits, limits of the license itself; penalties)
20	Information/Data for all aspects of production at Podilsky Cement in the last 5 years (2001-2005); input/output; fuels used and consumption; electricity consumption etc.
21	Certificates of Cement
22	Certificates of natural gas used
23	Copies of licenses and permits for Podilsky Cement
24	Adaptation of IPCC Guidelines and Software to Ukraine’s Cement Sector, Kyiv, 2004
25	CO2 Emissions Monitoring and Reporting Protocol for the Cement Industry” of the World Business Council for Sustainable Development (WBCSD), Working Group Cement; see: www.wbcsd.org
26	Appendix B of the Marrakech Accords (2001): Information on Baseline Setting for JI projects
27	Best Available Techniques” for the cement industry, CEMBUREAU, 1999
28	“Energy Strategy of Ukraine till 2030”, (Energetychna strategiya Ukrayiny do 2030 roku), Kyiv, 2006 http://mpe.energy.gov.ua/minenergo/control/uk/archive/docview?typeId=10000117912
29	Economist Intelligence Unit. 6, Country Forecast Ukraine updated September 2006; “www.eiu.com/”
30	IPPC Reference Document on Best Available Techniques in the Cement and Lime Manufacturing Industries, December 2001; www.ipcc.ch and Summary in German language: http://www.bvt.umweltbundesamt.de/archiv/Z_Zement-u-

Reference No.	Document or Type of Information
	Kalk.pdf#search=%22IPPC%20Reference%20Document%20on%20Best%20Available%20Techniques%20in%20the%20Cement%20and%20Lime%20Manufacturing%20Industries%2C%20December%202001%22
31	The Law of Ukraine “On the environmental expertise”, Articles 8, 15, 36; see under the link:http://www.kmu.gov.ua/control/en/publish/category?cat_id=10968103
32	The Law of Ukraine “On the environmental protection”, Article 51; see under the link:http://www.kmu.gov.ua/control/en/publish/category?cat_id=10968103
33	Background information from Ministry of Economic Affairs of the Netherlands (2003): Operational Guidelines for Project Design Documents of Joint Implementation projects: Volume 1: General guidelines, Version 2.2, The Netherlands and TOR for ERUPT-4 Tender (2004)
34	UNFCCC, CDM: “Tool for the demonstration and assessment of additionality” approved by the EB (EB 16, annex 1); see under: cdm.unfccc.int”.
35	Link to the Global Stakeholder Consultatation Process in the period from July 3rd, 2006 to August 1st, 2006 via www.netinform.net: http://www.netinform.net/KE/Wegweiser/Guide2.aspx?ID=1879&Ebene1_ID=26&Ebene2_ID=541&mode=1
36	Letter of approval provided by the Designated Focal Point of Ireland, dated 19 Jan. 2007
37	Letter of approval provided by the Designated Focal Point of Ukraine, dated 27 Dec. 2006; and its legal translation.
38	Link to the second Global Stakeholder Process in the Period from October 27, 2006 to November 25, 2006 via www.netinform.net: http://www.netinform.de/KE/Wegweiser/Guide2.aspx?ID=2210&Ebene1_ID=26&Ebene2_ID=651&mode=1