DETERMINATION REPORT

WASTE COKE OVEN GAS UTILIZATION AT OOO PO KHIMPROM PROJECT IN RUSSIA

REPORT NO. 2006-1419

REVISION NO. 01

DET NORSKE VERITAS

DETERMINATION REPORT

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Summary:

Det Norske Veritas Certification (DNV) has performed a determination of the "Waste Coke Oven Gas Utilization at OOO PO Khimprom" project in Russia. The determination was performed on the basis of the UNFCCC criteria for JI projects, in particular the verification procedures under the Article 6 supervisory committee, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The determination consisted of the following three phases: i) a desk review of the project design, baseline and monitoring plan; ii) an onsite visit and follow-up interviews with project stakeholders; iv) the resolution of outstanding issues and the issuance of the final determination report and opinion.

In summary, it is DNV's opinion that, with the exception of the formal approval of the project activity by the focal points of Russia and one of the member countries of the Baltic Sea Region Testing Ground Facility (sponsor country), the "Waste Coke Oven Gas Utilization at OOO PO Khimprom project in Russia meets all relevant UNFCCC requirements for the JI and all relevant host country criteria.

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Work carried out by: Konstantin Myachin		
Work verified by: Susanne Haefeli		
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Appendix A JI Validation Protocol

Abbreviations

CAR	Corrective Action Request
CH_4	Methane
CL	Clarification request
CHP	Combined Heat and Power
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
DNV	Det Norske Veritas
EIA	Environmental Impact Assessment
ERU(s)	Emission Reduction Unit(s)
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
JSC	Joint Stock Company
MP	Monitoring Plan
N_20	Nitrous Oxide
NO_x	Nitrogen Oxides
NEFCO/TGF	Nordic Environment Finance Corporation/Baltic Sea Region Testing Ground Facility
NGO	Non-governmental Organisation
N-K Plant	Novo-Kemerovo Combined Heat and Power Plant
OOO	Limited Liabilities Company
PDD	Project Design Document
PC	Personal Computer
$S0_2$	Sulphur Dioxide
TGF	Testing Ground Facility
TPP	Thermal Power Plant
UNFCCC	United Nations Framework Convention for Climate Change

1 INTRODUCTION

The Nordic Environment Finance Corporation, which is the Fund Manager of the Baltic Sea Region Testing Ground Facility, Finland (NEFCO/TGF) has commissioned Det Norske Veritas Certification Ltd (DNV) to conduct a determination of the "Waste Coke Oven Gas Utilization at OOO PO Khimprom project (hereafter called "the project") proposed as Joint Implementation (JI) project between Russia and one of the countries funding the TGF (not yet defined).

The determination was performed as a desk review of the documents presented by Ecopolice Ltd. Moscow, the consultant of NEFCO/TGF. Interviews with representatives of Ecopolice Ltd., OOO PO "Khimprom", JSC "Cox" were also carried out to clarify issues identified during the desk review. This report summarises the final findings of the determination of the project, performed on the basis of UNFCCC criteria refer to Kyoto Protocol criteria and the JI rules and modalities as agreed in the Marrakech Accords.

The determination team consisted of the following personnel:

Mr. Konstantin Myachin	DNV Certification Moscow	GHG auditor/validator
Mr. Michael Lehmann	DNV Certification Oslo	Energy sector expert
Ms. Susanne Haefeli	DNV Certification Oslo	Technical reviewer

1.1 Objective

The purpose of the determination is to have an independent third party assessing the project design. In particular, the project's baseline, the monitoring plan, and the project's compliance with relevant UNFCCC and Russian Federation criteria for Joint Implementation (JI) projects are validated in order to confirm that the project design as documented is sound and meets the identified criteria.

In the absence of specific verification procedures for JI projects hosted by Russian Federation, the determination was carried out in accordance with the verification procedure under the Article 6 supervisory committee (JI track II) described in the JI modalities and procedures, i.e. the Guidelines for the implementation of Article 6 of the Kyoto Protocol (Decision 16/CP. 7).

Determination is a requirement for JI projects following the verification procedures under the Article 6 supervisory committee and it is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of the emission reduction units (ERUs).

1.2 Scope

The determination scope is defined as an independent and objective review of the Project Design Document (PDD).The information contained in the PDD is reviewed against the Kyoto Protocol requirements for JI projects, the guidelines for the implementation of Article 6 of the Kyoto Protocol (Decision 16/CP.7) as agreed in the Marrakech Accords, in particular the verification procedures under the Article 6 supervisory committee, and associated interpretations. DNV has, based on the recommendations in the Validation and Verification Manual /3/, employed a risk-based approach in the determination process, focusing on the identification of significant risks for project implementation and the generation of ERUs.

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

1.3 GHG Project Description

The project will be implemented at OOO PO "Khimprom" - a producer of industrial and consumer chemicals in the West Siberia region, Russia. The project envisages the installation of two new boilers at Khimprom to utilize the coke oven waste gas from the JSC "Cox" coke oven batteries. The generating steam will be used for consumption at Khimprom's own facilities and displace steam that is otherwise produced with natural gas and coal as fuel.

The forecasted emission reductions are 354 055 tones of CO_2eq during the crediting period (2008-2012). The project lifetime is expected to be 25 years.

2 METHODOLOGY

The determination consisted of the following three phases:

I a desk review of the project design and the monitoring methodology
II follow-up interviews with project stakeholders
III the resolution of outstanding issues and the issuance of the final determination report and opinion

In order to ensure transparency, a determination protocol was customised for the project, according to the Validation and Verification Manual /3/. 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 the validator will document how a particular requirement has been validated and the result of the determination.

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

The completed determination protocol for the "Waste Coke Oven Gas Utilization at OOO PO Khimprom project is included in Appendix A to this report.

Findings established during the determination can either be seen as a non-fulfilment of determination criteria or where a risk to the fulfilment of project objectives is identified. *Corrective action requests* (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results;
ii) host Party requirements have not been met; or
iii) there is a risk that the project would not be accepted as a JI project or that emission reductions will not be certified.

The term *Clarification* may be used where additional information is needed to fully clarify an issue.

Determination Protocol Table 1: Mandatory Requirements for Joint Implementation (JI) Project Activities			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to COP decision where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements or a request for **Clarification (CL)** where further clarifications are needed.*	*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 shall 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).*	*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). A request for **Clarification (CL)** is used when the independent entity has identified a need for further clarification. N/A means not applicable.*

Determination Protocol Table 3: Resolution of Corrective Action Requests and Requests for Clarification			
Draft report clarifications and corrective action 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 Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the project proponent 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".*

Figure 2 Determination protocol tables

2.1 Review of Documents

The following documents were assessed as a part of the determination:

- Project Design Document for "Waste Coke Oven Gas Utilization at Khimprom", version 01 of 2006-06-19, version 02 of 2006-09-30 and version 03 of 2006-12-04 /1/
- Ecopolice Ltd, "Khimprom PDD Version 1 Tables", excel file, June 2006 /2/

The following changes have been made between version 1 and version 3 of the PDD:

- Clarification of the project design and the additionality assessment.
- Exclusion of emissions from flaring the coke oven gas (in the baseline scenario) and burning it in the boilers (in the project scenario), to be in line with the logic of ACM0004.
- Adjustments to the monitoring plan and emission reductions calculations.
- Revision of Section F in the PDD.

2.2 Follow-up Interviews

In the period of 2006-08-02 – 2006-08-03, DNV performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of NEFCO, Ecopolice Ltd., OOO PO "Khimprom" and JSC "Cox" were interviewed. The interview topics were:

- Project background information;
- Baseline determination and verification of used assumptions;
- Financial barrier and project additionality;
- Monitoring plan;
- Emission reductions calculation;
- Project technical design.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination was to resolve any outstanding issues which needed to be clarified for DNV's positive conclusion on the project design. The corrective action requests and requests for clarification raised by DNV, presented to the project participants in DNV's draft determination report of 2006-08-14 (rev. 0) were resolved during communications between NEFCO/TGF, Ecopolice Ltd. and DNV.

To guarantee the transparency of the determination process, the concerns raised by DNV and the project participants' answers are documented in Table 3 of the determination protocol in Appendix A to this report.

Since modifications to the project design were necessary to resolve DNV's concerns, Ecopolice Ltd. decided to revise the PDD and resubmitted the PDD on 2006-12-04. After reviewing the revised PDD, DNV issued this determination report and opinion.

3 DETERMINATION FINDINGS

The findings of the determination are stated in the following sections. The determination criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the determination protocol in Appendix A. These findings refer to the PDD version 03 dated 2006-12-04.

3.1 Project design

The project envisages installation of two new coke oven gas-fired boilers at OOO PO "Khimprom" to utilize the coke oven waste gas from the JSC "Cox" coke oven batteries as a fuel. The generating steam will be used for consumption at Khimprom's own facilities. JSC "Cox" produces a significant amount of coke oven gas which is a by-product of coke production. Currently, around 200 million m^3 are flared annually and this amount will further increase due to the commission of new coke batteries. During the project activity it is expected that approximately 64 million m^3/year of coke oven gas will be supplied to Khimprom. This will displace natural gas used as fuel at the Khimprom boiler house as well as coal and natural gas fired in the Novo-Kemerovo CHP plant.

The project design constitutes current good practice. Sufficient training to operate the additional boilers has been administered to the personnel of OOO PO "Khimprom" so as to properly operate and maintain the facilities.

Currently the project is under implementation and the environmental authorities during the preliminary discussions have not issued any objections to the project. The project is proposed as JI project between Russia and one of the member countries of the TGF. The specific sponsor country is not defined yet. Formal approval from involved UNFCCC focal points have to date not been obtained.

The project is forecasted to start in October 2007 with an expected operational lifetime of 25 years. The crediting period is the first commitment period of the Kyoto Protocol and constitutes five years from 01 January 2008 until 31 December 2012.

3.2 Baseline

The project follows the logic of the approved CDM baseline methodology ACM0004 "*Consolidated baseline methodology for waste gas and/or heat and/or pressure for power generation*", version 02, dated 2006-03-03. Generation of electricity is replaced by generation of steam. In the absence of any approved baseline methodologies for JI projects the adapted ACM0004 is deemed appropriate.

The chosen baseline for the project activity is the continuation of the current situation which provides Khimprom with the possibility of economically acceptable supply of steam without additional investments: Three existing natural gas-fired boilers would produce the main part of the required heat (steam). Khimprom has installed these natural gas-fired boilers in 2002. Before 2002, all the steam had been supplied from Novo-Kemerovo CHP plant. Currently, in the warm season of the year, all the steam consumed by Khimprom is produced at its own boilers and nothing is imported from Novo-Kemerovo CHP. During winters and during maintenance,

Khimprom purchases at least 300 TJ of steam from Novo-Kemerovo CHP. Due to the long steam pipeline, Khimprom cannot receive less than 10 tonnes/hour in order to prevent the pipeline from freezing. Historical data for the last 3 years shows that Khimprom has gradually decreased the steam consumption from the Novo-Kemerovo CHP plant down to 307 TJ in 2005, due to its higher costs. The aim is to reach and maintain the technologically acceptable minimum (300 TJ) that is fixed-ante in the project.

Khimprom's overall heat demand for the period 2008-2012 is forecasted to increase up to 1% per year and in the absence of the project this would have been covered by the described two sources. The growth in heat consumption is conditioned by gradual extension and modernization of production.

The Novo-Kemerovo CHP plant will generate steam by using coal and natural gas as fuels without any significant changes in the ratio of the fuel mix in comparison to the year 2005 (84.9% of coal : 15.1% of natural gas). Natural gas is used at the Novo-Kemerovo CHP plant mainly to improve the coal combustion. For the last three years the official data for the share of coal consumption has been variable (76.6% in 2003, 87.1% in 2004, and 84.9% in 2005). Taking into account the increase of the natural gas price the Novo-Kemerovo CHP plant is likely to reduce the natural gas consumption to the acceptable minimum, as coal is the cheapest and most available fuel in the Kemerovo region. The region has a highly developed coal mining industry.

Nevertheless, the ratio of the fuel mix for the Novo-Kemerovo CHP plant will be monitored annually during the crediting period.

JSC "Cox" will continue to flare the waste coke oven gas into the open air. Currently JSC "Cox" uses approximately 50-65% (summer-winter) of the coke oven gas for its own technological and heating purposes. To date there is only one consumer of the coke oven gas – the Kemerovskaya thermal power plant which uses it as a fuel for energy boilers (30-33 000 m^3/hour in summer time, 39 000 m^3/hour in winter time). The rest of the gas is flared. The Kemerovskaya TPP does not have plans to consume more coke oven gas because this would require significant investments as well as negotiations with the Kemerovo authorities. The technical capabilities of the torch system at JSC "Cox" allow it to flare 45 000 m^3 waste gas per hour. JSC "Cox" will commission additional two coke batteries in March 2007 and has already obtained an environmental consent to flare the additional amount of waste coke oven gas.

3.3 Additionality

Additionality of the project is assessed by means of the tool for the demonstration and assessment of additionality (Version 02 of 20 Nov. 2005) approved for CDM projects:
Step 0. Preliminary screening based on the starting date of the project activity

The project is forecast to start operation in 2007 only.

Step 1. Identification of alternatives to the project activity consistent with current laws and regulations
Five alternative scenarios were identified:

1. The proposed project activity not undertaken as a JI project activity.
2. Import of steam from Novo-Kemerovo CHP Plant.
3. Existing or new captive energy generation on-site, using other energy sources than waste coke oven gas, such as diesel, natural gas, hydro, wind, etc.

4. A mix of options 2 and 3, in which case the mix of grid and captive energy should be specified.
5. The continuation of the current situation.

Having made the necessary analysis of these alternatives the scenario 5 has been chosen as most realistic and credible one. The correctness of this conclusion has been verified during the follow-up interview.

Step 2. Investment analysis

Has not been applied for the project.

Step 3. Barrier analysis

The project's overall costs of implementation are approximately 2.3 million Euros. OOO PO "Khimprom" does not have sufficient financial resources to implement the project without JI revenues. During 1998-2004 Khimprom was an unprofitable enterprise (except for 2002 when it showed a small profit) and it has undergone an official bankruptcy procedure. The negative financial results were confirmed during the follow-up interview by review of the official "income and losses reports" submitted to the Tax State Inspection for previous years.

Currently PO "Khimprom" is given only short-term credits from the State bank "Sberbank" for replenishment of circulating assets and not for the investment activity. Thus only revenues from ERUs selling would allow Khimprom to implement the project. It has been confirmed that the crediting organization will finance the JI project only in case Khimprom will be able to use additional financial sources.

In conclusion, it has been sufficiently justified that the proposed project activity faces an investment barrier and hence is not a likely baseline scenario.

Step 4. Common practice analysis

An analysis shows that utilization of the waste coke oven gas is widely spread in the Russian Federation. The use of the coke oven gas formed in the production cycle is typical for the metallurgical industry. There are many examples present where enterprises located in the proximity of a metallurgical or coke plant receive coke oven gas through pipelines and utilize this as a fuel, just like the JI project under consideration.

Nevertheless, there is an essential distinction between Khimprom and other companies that are in similar conditions for access to the coke oven gas (location in the proximity of its source) – the poor financial situation at the OOO PO "Khimprom" for recent years and the resulting investment barrier. For instance, Kemerovskaya TPP implemented the coke oven gas boilers several years ago, financed with its own funds. Many enterprises in Russia implemented coke oven gas fuel utilization technology twenty and more years ago during the plan economy period. However Khimprom purchased the steam from Novo-Kemerovo CHP plant historically and the own boiler house at the Khimprom was built only in 2002 with funding of the energy saving regional program (direct financing).

The justification that the proposed project activity is not a common practice due to presence of the actual distinction (valid investment barrier) between similar activities and the project at Khimprom is deemed sufficient.

Step 5. Impact of JI registration

The income from the sale of ERUs would help the project to overcome the investment barrier and hence make the project activity feasible.

In conclusion, it has been sufficiently demonstrated that the proposed project is additional.

3.4 Monitoring Plan

The project follows the logic of the approved CDM baseline methodology ACM0004 "*Consolidated baseline methodology for waste gas and/or heat and/or pressure for power generation*", version 02, dated 2006-03-03. Generation of electricity is replaced by generation of steam. In the absence of any approved baseline methodologies for JI projects the adapted ACM0004 is deemed appropriate.

The following parameters will be monitored throughout the crediting period:

- Heat generation by Khimprom's coke oven gas boilers, TJ;
- Share of coal (percent of fuel heat in TJ) in the fuel mix of Novo-Kemerovo CHP plant;
- Share of natural gas (percent of fuel heat in TJ) in the fuel mix of Novo-Kemerovo CHP plant.

The date of the heat generation by each coke oven gas boiler will be directly monitored in the project activity and recorded continuously. Each boiler will be equipped with the electronic control and data recording system which allows transferring data from the control panel to the PC. All parameters of the coke oven gas fired boiler operation will be stored automatically. This system is already used in the Khimprom boiler house for the natural gas fired boilers.

The data regarding share of coal and natural gas in the fuel mix of Novo-Kemerovo CHP plant will be annually reported by JSC "KuzbassEnergo" in the report for the national statistics # 6-tp.

No other sources of emission are considered significant and need to me monitored.

It has been clarified that the operation and maintenance manuals will be elaborated accordingly once the project is implemented. Sufficient training will be provided to the personnel in charge of the measurements and handling of the records. All monitoring and records handling responsibility will be clearly defined at Khimprom before the start of the project operation.

3.5 Calculation of GHG Emissions

The spatial extent of the project boundary comprises the following emissions sources:

- JSC "Cox" facility flaring captive coke oven gas;
- Khimprom's boiler-house;
- Novo-Kemerovo CHP Plant.

Only CO_2 emissions is taken into account and emissions of other greenhouse gases are considered negligible. An option of direct monitoring of the emission reductions is applied for the project. The baseline emissions are calculated based on the use of natural gas at Khimprom and coal and natural gas at the Novo-Kemerovo CHP. No project emissions need to be accounted for within the project's boundaries because:

- No auxiliary fossil fuels combustion is required;

- No coke oven gas compression is required;
- The increased emissions during start-ups are not significant.

The definition of the project boundary is deemed appropriate.

The additional emissions resulting from the electricity use by the coke oven gas boilers at Khimprom is considered insignificant (estimated to be approximately 800 tones CO_2/year and these will be compensated due to the reduction of electricity consumption by the less loaded natural gas boilers at the Novo-Kemerovo CHP plant). The reduction of the annual heat production of the Novo-Kemerovo CHP plant during the project activity due to discontinuation of the steam supply to Khimprom is estimated to be approximately 2.3% of the overall production figure. Thus, the change of the boiler's efficiency can be considered negligible. Taking into account these facts the exclusion of the leakages form the project is deemed appropriate.

The formulas applied have been assessed and found to sustain complete and accurate reporting baseline data, project performance and project emissions data. It should be notes that the project developer used extended approach for the formulae construction in the PDD, and formula (d2) is a basic formula applied for calculation of the baseline emissions during the project activity. The formula is used for demonstration of the further construction of the formula (d2) and will not be applied in the monitoring.

The natural gas emission factor (56.1 tCO2/TJ) and coal emission factor (94.6 tCO2/TJ) are taken based on IPCC data. The efficiency of the Khimprom's natural gas boilers is calculated as an average figure – 93.9% based on the boiler's last technical tests results and has been confirmed.

To estimate the baseline emissions from use of the natural gas at Khimprom, the amount of heat produced by coke oven gas fired boilers is calculated via multiplication of the annual contracted amount of the coke oven gas to be supplied from JSC "Cox" (64 million m^3), NCV of the coke oven gas (16.76 $.10^{-6}$ TJ/m^3, data gained from JSC "Cox" for 2004-2006) and the efficiency of the coke oven gas boilers (92%) that is taken from the analogous boilers' tests at the JSC "Cox". The fixed-ante annual steam supply to Khimprom (300 TJ/year) from Novo-Kemerovo CHP plant have been used from that losses in the steam pipeline are 33 TJ.

To estimate the baseline emissions from use of natural gas and coal at the Novo-Kemerovo CHP plant, the fixed-ante annual steam supply to Khimprom (300 TJ/year) multiplied by the specific heat consumption at the Novo-Kemerovo CHP plant (1.044 TJ/TJ, fixed-ante) has in turn been multiplied by the respective share of coal in the fuel mix at the Novo-Kemerovo CHP plant (84.9% of fuel heat in TJ, 2005 data) and share of natural gas (15.1% of fuel heat in TJ, 2005 data). Then above mentioned IPCC natural gas emission factor and coal emission factor has been used to calculate the resulting baseline emissions.

The emission reduction forecast has been verified and is deemed likely that the forecast amount of 354 055 tonnes of CO_2eq is achieved.

3.6 Environmental Impacts

The utilisation of the waste coke oven gas at OOO PO Khimprom will lead to a positive environmental impact through the following:

- The replacement of natural gas for coke oven gas at Khimprom will reduce overall emissions of CO_2, CO, NO_x at the JSC "Cox" and Novo-Kemerovo CHP plant and also reduce emissions of SO_2 and solid substances (including transboundary flows) at the Novo-Kemerovo CHP plant;
- The project implementation will not result in additional pollution of the water basin in the area and will not lead to noticeable exhaustion of water resources;
- Reduction of the solid wastes formation will take place at the Novo-Kemerovo CHP plant.

It has been confirmed that PO Khimprom will prepare all required technical documentation including a detailed environmental impact assessment (EIA) and will submit it to the environmental expertise in order to have its endorsement prior to the starting of the project activity. Currently OOO PO Khimprom has all necessary environmental consents and licenses.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

4.1 Comments received

According to the modalities for the determination of JI projects, the validator shall make publicly available the project design document and receive, within 30 days, comments from Parties, stakeholders and UNFCCC accredited observers and make them publicly available.

Hence, the PDD, version 01 has been published on DNV's website* from 2006-06-27 to 2006-07-26. Parties, stakeholders and observers were invited to provide comments through the Climate-L mail list. Two comments were received. The first comment related to clarification of the method of emissions reduction.

Comment by: karl-johan lehtinen, nefco
Date:2006-06-30
Subject: Khimprom

Comment:
"I have difficulties in understanding in what way emissions are being reduced. If Khimprom is only delivering coke gas to another company that is going to use coke gas instead of natural gas (if I understand it correctly natural gas would be a cleaner alternative). From my point of view it is an economically positive alternative, but is there a real reduction of CO2, and if there is, is it substantial?"

The second comment expressed the full approval of the project from one of the stakeholders.

Comment by: J D Nath C.Sci. C.Chem. MRSC., ONGC
Date:2006-07-20
Subject: Russia JI project

Comment:

* www.dnv.com/certification/climatechange

"I think the project shall do no harm to the environment. The technology should be well disseminated for greater benefit of the citizens of the earth.

Nath, J D"

4.2 How DNV has taken the comment into account

The first comment above was submitted to the Ecopolice company which is the PDD developer. Taking into account that this comment had "request for clarification" character, the project developer has provided inquired party with sufficient and coherent explanation by what means the CO_2 emissions reduction will occur during the project activity. Therefore DNV considered answer below as satisfactory:

To: Mr. Karl-Johan Lehtinen,
Explanation of in what way emissions are reduced is as follows.
Now "Khimprom" covers its steam demand from 2 sources: (1) from its own 3 natural gas boilers and (2) from Novo-Kemerovo CHP Plant.
The first component of reductions. "Khimprom" will receive coke oven gas from JSC "Cox" (which is now being uselessly flared with firing in the open air). This gas will be used by 2 new boilers and this will save natural gas use at Khimprom's existing boilers. Thus emissions from natural gas firing will be prevented.
The second component of reductions.
The increased capacity of Khimprom's boiler house (with boilers that will be using coke oven gas and natural gas) will make it possible to reduce steam supply from Novo-Kemerovo thermal power plant which is firing both coal (84.9%) and natural gas (15.1%).
The emission factor for this fuel mix is 88.7 tCO_2/TJ which is much higher than for coke oven gas (47.7 tCO_2/TJ) and natural gas (56.1 tCO_2/TJ).

Best regards,
Mikhail Rogankov,
The developer of the PDD.

5 DETERMINATION OPINION

Det Norske Veritas (DNV) has performed a determination of the "Waste Coke Oven Gas Utilization at OOO PO Khimprom project in Russia. The determination was performed on the basis of UNFCCC criteria for Joint Implementation projects, in particular the verification procedure under the Article 6 supervisory committee (JI track II) described in the Guidelines for the implementation of Article 6 of the Kyoto Protocol, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The project comprises the installation of two new boilers at OOO PO "Khimprom" to utilize the coke oven waste gas from the JSC "Cox" coke oven batteries. The generating steam will be used for consumption at Khimprom's own facilities and displace steam that is otherwise produced with natural gas and coal. The project design reflects using of new technologies and represents good practice in Russia.

The project is proposed as a JI project between Russia and one of the member countries of the Baltic Sea Region Testing Ground Facility (sponsor country). However, the focal points of Russia and the sponsor country have yet to provide approval letters to the project.

The project adapts the approved CDM baseline methodology ACM0004 (Version 02) "Consolidated baseline methodology for waste gas and/or heat and/or pressure for power generation" so as allow for the calculation of baseline emissions due to the generation of steam. *It is sufficiently demonstrated that project faces a relevant investment barrier and that the project is thus deemed to generate emission reductions that are additional to any that would have occurred in its absence.*

The monitoring management system, including correct handling of measurement instruments and records, will be defined once the project is implemented.

The annual emission reductions are 70 811 tones of CO_2eq during the crediting period (2008-2012). The underlying assumptions have been verified and it is deemed likely that the forecast amount is achieved.

Parties, stakeholders and NGOs were invited to provide comments on the project. Two comments were received; one of them with inquiry about the basis for ERUs generation and the project developer adequately addressed the comment by giving the appropriate clarification about the project design.

The project is not expected to have significant environmental impacts. Evaluation of the project by environmental experts is required by Russian legislation. The preparation of the project design documentation is close to completion and it will be submitted to expertise later.

In summary, it is DNV's opinion that, with the exception of the formal approval of the project activity by the focal points of Russia and one of the member countries of the Baltic Sea Region Testing Ground Facility (sponsor country), the "Waste Coke Oven Gas Utilization at OOO PO Khimprom project in Russia meets all relevant UNFCCC requirements for the JI and all relevant host country criteria.

6 REFERENCES

Documents provided by the project proponent that relate directly to the project:

/1/ Ecopolice Ltd, "Waste Coke Oven Gas Utilization at Khimprom", Project Design Document, version 01 of 2006-06-19, version 02 of 2006-09-30, version 03 of 2006-12-04

/2/ Ecopolice Ltd, "Khimprom PDD Version 1 Tables", excel file, June 2006.

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

/3/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): Validation and Verification Manual. http://www.vvmanual.info

/4/ 2006 IPCC Guidelines for National Greenhouse Gas Inventories

/5/ Consolidated methodology for waste gas and/or heat for power generation ACM0004, version 02 of 2006-03-03.

/6/ CDM EB, "Tool for the demonstration and assessment of additionality", version 2.

/7/ Scanned original of the "Agreement on supply of coke oven gas from JSC "Cox" to OOO PO Khimprom" of 2006-02-16.

/8/ Scanned copy of the letter from Sibconcord of 2006-02-01 No 53.

/9/ Copy of reply from Mr Smolego, Acting Deputy Governor of the Kemerovo region on the Khimprom project.

/10/ Copy of the article "The First Portent" in the newspaper "Continent Siberia" of May 2006 No. 18.

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

/11/ Mr. Mikhail Rogankov – Deputy Director of Ecopolice, Ltd.

/12/ Ms. Maria Malniemi – Manager, Project administration of NEFCO/TGF.

/13/ Mr. Artiom Tchernyshev – Deputy Financial Director of PO "Khimprom", JI project coordinator.

/14/ Mr. Evgueny Koshelev – Head of Production and Technical Department of JSC "Cox".

/15/ Mr. Alexander Rusakov – Head of Energy department of PO "Khimprom".

/16/ Mr. Igor Kazantcev – General Director of PO "Khimprom".

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APPENDIX A

JI 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)	**CAR 1**	Written approvals from the JI focal points of Russia and the sponsor country have not yet been received.
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	Kyoto Protocol Article 6.1 (b)	OK	Table 2, Section B.2
3. The sponsor Party shall not aquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7, i.e. the sponsor Party shall have in place a national system for estimating GHG emissions and a national registry and has submitted annualy its most recent inventory	Kyoto Protocol Article 6.1 (c) Guidelines for the implementation of Art. 6 §21c,d,e,f	N/A	No sponsor Party is identified.
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)	N/A	No sponsor Party is identified.
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	Guidelines for the implementation of Art. 6 §20	**CAR 2**	The focal point of Russia has not been designated yet officially.
6. Parties participating in JI shall be a Party to the Kyoto Protocol	Guidelines for the implementation of Art. 6 §21a/24	OK	The Russian Federation ratified the Kyoto Protocol on 18 November 2004. No sponsor Party yet identified
7. The participating Parties' assigned amount shall have been calculated and recorded	Guidelines for the implementation of Art. 6 §21b/24	CAR 2	The focal point of Russia has not been designated yet officially.

Requirement	Reference	Conclusion	Cross Reference / Comment
8. The host Party shall have in place a national registry in accordance with Article 5 of the Kyoto Protocol	Guidelines for the implementation of Art. 6 §21d/24	CAR 2	The focal point of Russia has not been designated yet officially.
9. ERUs shall not be issued as a result of project activities undertaken within the European Community that also lead to a reduction in, or limitation of, emissions from installations covered by Directive 2003/87/EC, unless an equal number of allowances is cancelled from the registry of the Member State of the ERUs' origin.	Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004	N/A	Not applicable. The JI project will be implemented in Russia.
10. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Guidelines for the implementation of Art. 6 §31	OK	
11. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments	Guidelines for the implementation of Art. 6 §32	OK	The PDD, version 01 has been published on DNV's website[2] from 27 June 2006 to 26 June 2006. Parties, stakeholders and observers were invited to provide comments through the Climate-L mail list. Two comments were received. The PDD, version 03 will be made available for the 30 days stakeholder period once more, this time on the JI UNFCCC's official website and the dates of the publication corrected. The potential new comments will be submitted to the project participants and added into the report.

[2] www.dnv.com/certification/climatechange

Requirement	Reference	Conclusion	Cross Reference / Comment
12. 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	Guidelines for the implementation of Art. 6 §33d	OK	Table 2, Section F
13. 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	Guidelines for the implementation of Art. 6, Appendix B	OK	Table 2, Section B.2
14. 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	Guidelines for the implementation of Art. 6, Appendix B	OK	Table 2, Section B.2
15. The baseline methodology shall exclude to earn EURs for decreases in activity levels outside the project activity or due to force majeure	Guidelines for the implementation of Art. 6, Appendix B	OK	Table 2, Section B.2
16. The project shall have an appropriate monitoring plan	Guidelines for the implementation of Art. 6 §33c	OK	Table 2, Section D

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/	DR	The project is located in the Kemerovo city, Kemerovo region, Russia.		OK
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	/1/	DR	The project boundary comprises the following CO_2 emission sources: • JSC "Cox" facility flaring waste coke oven gas in the open air; • Khimprom's boilers; • Novo-Kemerovo CHP Plant. Apart from coal and natural gas no other fossil fuels are used.		OK
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/	DR I	The coke oven gas boilers for Khimprom will be supplied by the leading Russian producer of the boiler units – "Byisk boiler plant". The boiler model DE-25-24-250 GM is modern and used at many industrial sites in Russia.		OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			Each newly built boiler is equipped with an electronic control and data recording system which allows transferring data from the control panel to the PC. All parameters of the boiler operation are stored automatically. The rest of technological equipment and facilities are designed with consideration of the modern requirements and practices.		
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/	DR	The technology for coke oven gas utilisation envisaged by the project is state-of-the-art. It was confirmed that currently the waste coke oven gas utilisation in chemical plants is not wide spread in Russia because the of absence of the source of coke oven gas in the chemicals production cycle. The project design is based on the situation when the coke production plant (related to the metallurgical industry) is located close to chemical plants. However, where possible, industrial enterprises utilise the waste coke oven gas from near situated metallurgical and coke production plants for energy generation purposes.		OK
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	/1/	DR	The project technology is unlikely to be substituted by other more efficient technology within the foreseeable future and at least not until 2012.		OK
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project	/1/	DR I	The project will require training for the technical staff. Since Khimprom has its own boiler house with modern natural gas-fired boilers, its personnel is well trained and		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
period?			competent. This was confirmed during the follow-up interview.		
A.2.5. Does the project make provisions for meeting training and maintenance needs?	/1/	DR, I	Khimprom has a contract with a specialised company "Tetracom" for the training and probation of the boiler house personnel.		OK
A.3. Compliance with host country requirements *The project's contribution to sustainable development is assessed.*					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	/1/	DR, I	A letter of approval from the JI/UNFCCC Focal Point of Russia needs to be obtained for the project.	CAR 1	
A.3.2. Is the project in line with host-country specific JI requirements?	/1/	DR	*idem.*	CAR 1	
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/	DR, I	There are no approved CDM methodologies currently applicable to the project. The project follows the logic of the approved CDM baseline		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			methodology ACM0004 "*Consolidated baseline methodology for waste gas and/or heat and/or pressure for power generation*", version 02, dated 2006-03-03. Generation of electricity is replaced by generation of steam. The baseline emissions are determined as emissions from the use of natural gas at Khimprom's existing boilers as well as natural gas and coal used at the Novo-Kemerovo CHP plant. Thus by constant monitoring of the heat output from the 2 new coke oven gas boilers at Khimprom and by annual monitoring of the shares of coal and natural gas in the fuel mix at the Novo-Kemerovo CHP plant multiplied by the fixed-ante steam supply (300 TJ) to Khimprom and the specific fuel consumption for production of 1 TJ of heat at Novo-Kemerovo CHP plant, the amounts of heat produced with fossil fuels in the baseline scenario will be calculated in TJ. The resulting emission reductions are directly calculated through multiplication of those amounts of heat produced to IPCC CO_2 emissions coefficients for natural gas and coal (in tones of CO_2/TJ).		
B.1.2. Does the baseline methodology specify data sources and assumptions?	/1/	DR	Yes.		OK
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/	DR	Yes. In the revised PDD, version 03 of 2006-12-04, the baseline emissions are calculated in the following way: $BE_y = 59.74 (HG_{cog} - 267) + 29629 SHARE_{coal,y} + 17571 SHARE_{ng,y}$ (TJ)		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			formula (d2) HG_{cog} - actual heat generation of the Khimprom's coke oven gas boilers will be directly measured. $SHARE_{coal,y}$ and $SHARE_{ng,y}$ will be taken from the annual reports of the Novo-Kemerovo CHP plant. The formula (d1): $BE_y = H_{ng,y} . EF_{ng} + b_{N-KP,y} H_{N-KP,y} . EF_{mix,y}$ (TJ) is used for demonstration of the further construction of the formula (d2) and will not be applied in the monitoring during the project activity.		
B.1.4. Does the baseline methodology specify types of variables used (e.g. fuels used, fuel consumption rates, etc)?	/1/	DR	See B.1.1.		OK
B.1.5. Does the baseline methodology specify the spatial level of data (local, regional, national)?	/1/	DR I	Yes. The data for the calculation of the baseline steam from own sources and from Novo-Kemerovo CHP plant.		OK
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/	DR	Yes, the baseline has been transparently described and the methodology ACM004 applied properly. The approach for calculation baseline emissions is based on the following assumption:		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			1. GHG emissions from coke gas flaring are the same as its firing in boilers and despite of the bigger proportion of CO from coke oven flaring the emissions the CO will be quickly oxidised in atmosphere to CO_2; 2. Use of waste coke oven gas at Khimprom's boiler house means that the same amount of coal or natural gas (expressed in TJ heat) will be saved and GHG emissions prevented. The baseline for the project is continuation of the firing of the natural gas in the Khimprom's boiler house and steam supply from Novo-Kemerovo CHP plant on the acceptable technical minimum (300 TJ/year)		
B.2.2. Has the baseline been determined using conservative assumptions where possible?	/1/	DR I	In the baseline scenario Khimprom has produced steam with natural gas in its own boiler house and imported a minimum of 300 TJ/year of steam from the nearby Novo-Kemerovo CHP plant. The losses during the steam import are estimated to be around 33 TJ/year and thus 267 TJ of the heat is delivered to Khimprom's premises only. The conservativeness of these figures has been confirmed during the follow-up interview. The CO_2 emission coefficients of natural gas and coal in tones of CO_2/TJ have been defined based on corresponding IPCC data. The resulting CO_2 emissions from use of the natural gas and coal have been defined by		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			multiplication of the CO_2 coefficients to the respective shares of natural gas and coal in the fuel mix at Novo-Kemerovo CHP plant. The share of coal in the fuel mix at Novo-Kemerovo CHP plant has been set as 84.9% (of fuel heat in TJ) and the share of natural gas has been set as 15.1% (of fuel heat in TJ), based on records from 2003 – 2005 (lowest figures for coal have been chosen). This ratio is deemed conservative as the trends indicate that the percentage of coal in the fuel mix is growing. The specific heat consumption at the Novo-Kemerovo CHP plant (1.044 TJ/TJ) has not been changing noticeably for the last three years and unlikely change in foreseeable future due to performance of the correctly employed electricity technology. The efficiencies of natural gas boilers (93.9%) and coke oven gas boilers (92%) have been assessed during the follow-up interview and these figures are considered to be conservative.		
B.2.3. Has the baseline been established on a project-specific basis?	/1/	DR	Yes.		OK
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/1/	DR I	It has been confirmed that JSC “Cox” will construct two additional coke batteries independently from the JI project implementation and commission it in March 2007. JSC “Cox” already have the preliminary consent to flare up to 45 000 m^3/hour of the		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			coke oven waste gas. The contract between JSC ”Cox” and OOO PO “Khimprom” for coke oven gas supply has been checked and the required duration and volumes of coke oven gas supply (64 mlllion m^3/year) have been confirmed.		
B.2.5. Is the baseline determination compatible with the available data?	/1/	DR I	Yes. Availability of statistical data from Novo-Kemerovo CHP of the share of coal versus natural gas has been confirmed during follow-up interviews. The Novo-Kemerovo CHP plant and Khimprom has signed a special agreement of the information provision.		OK
B.2.6. Does the selected baseline represent a likely scenario in the absence of the project?	/1/	DR	Several baseline scenario alternatives have been identified. Based on the ACM0004 recommendations, the revised PDD clearly identifies six alternative scenarios that all comply with Russia’s current regulatory requirements. One of the scenarios - “other uses of the waste gas” has been excluded from consideration in the additionality discussion as practically not plausible.		OK
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 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	/1/	DR I	The additionality of the project has been demonstrated in PDD using the additionality tool (Version 02 of 20 November 2005). *Step 2. Investment analysis* Has not been applied for the project. *Step 3. Barrier analysis* It has been confirmed that the crediting		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
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)?			organization will finance the JI project only in case Khimprom will be able to use additional financial sources. The project thus faces a relevant investment barrier. *Step 4. Common practice analysis* The common practice analysis made in the PDD contradicts with real practice and requirements of the additionality tool The utilisation of the coke oven gas in Russian Federation is widespread. Where possible, industrial enterprises use the waste coke oven gas from near situated metallurgical and coke production plants for energy generation purposes. However there is actual distinction between similar activities and the project at Khimprom – valid investment barrier that prevents Khimprom from the possible project implementation. *Step 5. Impact of JI registration* The income from the sale of ERUs would help the project to overcome the investment barrier and hence make the project activity feasible. In conclusion, it has been sufficiently demonstrated that the proposed project is additional.	~~CAR 3~~	
B.2.8. Have the major risks to the baseline been identified?	/1/	DR I	The major risks for the baseline have been identified and discussed during follow-up interviews:		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			▪ The growth of the price for coke oven gas supplied from JSC "Cox" that could make the project activity unprofitable; ▪ Investment risk in the initial stage of the project implementation due to changes of position of "Sberbank" which is a main crediting organisation for Khimprom. It has been confirmed during the follow up interview that these risks are not likely to happen in until 2012.		
B.2.9. Is all literature and sources clearly referenced?	/1/	DR	Yes.		OK
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/	DR	The project starting date is defined as October 2007. The remaining lifetime of the boilers already installed at Khimprom is at least 25 years. Thus, there is no risk that the current generation mix would change until 2012.		OK
C.1.2. Is the project's crediting time clearly defined?	/1/	DR	The length of the crediting period for the project will be 5 years, during the first commitment period of the Kyoto protocol (1st January 2008 -31st December 2012).		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
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/	DR	In order to be more in line with ACM004, the revised monitoring plan in the PDD provides for the direct monitoring of emission reductions based on the measured heat generated with the coke oven gas.		OK
D.1.2. Is the selected monitoring methodology supported by the monitored and recorded data?	/1/	DR	Yes, the monitoring plan in the PDD, version 03 from 2006-12-04 follows the logic of ACM0004, version 02 of 2006-03-03.		OK
D.1.3. Are the monitoring provisions in the monitoring methodology consistent with the project boundaries in the baseline study?	/1/	DR	See D.1.2.		OK
D.1.4. Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?	/1/	DR	No monitoring needs outside the project boundary have been identified.		OK
D.1.5. Does the monitoring methodology allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions?	/1/	DR	Yes. The calculation method allows for conservative, accurate and complete calculations of the emission reductions.		OK
D.1.6. Is the monitoring methodology clear and user friendly?	/1/	DR	Yes.		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D.1.7. Does the methodology mitigate possible monitoring errors or uncertainties addressed?	/1/	DR	Yes. The monitoring methodology sufficiently mitigates possible monitoring errors and uncertainties.		OK
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/	DR	The monitoring plan in the PDD, version 03 from 2006-12-04 includes collection and archiving of all necessary date for estimation or measuring of greenhouse gas emissions within the project boundary. The following parameters will be monitored throughout the crediting period: ▪ Heat generation by Khimprom's coke oven gas boilers (TJ directly): continuously; ▪ Share of coal (percent of fuel heat in TJ) in the fuel mix of Novo-Kemerovo CHP plant: annually; ▪ Share of natural gas (percent of fuel heat in TJ) in the fuel mix of Novo-Kemerovo CHP plant: annually.		OK
D.2.2. Are the choices of project GHG indicators reasonable?	/1/	DR	Yes.		OK
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	/1/	DR	All the specified variables are possible to monitor.		OK
D.2.4. Will the indicators enable comparison of	/1/	DR	Yes.		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
project data and performance over time?					
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/	DR I	Possible leakages are correctly analysed and deemed negligible. The additional emissions resulted from the electricity use by the coke oven gas boilers at Khimprom is estimated to be approximately 800 tones CO_2/year and moreover will be compensated due to the reduction of electricity consumption by the less loaded natural gas boilers and at the Novo-Kemerovo CHP plant. The project implementation will also reduce the heat generation at the Novo-Kemerovo CHP plant, however the reduction is estimated to be approximately 2.3% from the overall production figure. Thus, the change of the boiler's efficiency can be considered negligible. The additional use of fuels during start-ups is considered to be negligible. It has been confirmed that Khimprom will tend to run the coke oven gas boiler constantly and boilers shutdown would take place only twice a year for maintenance.		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
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/	DR	Yes.		OK
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	Yes.		OK
D.4.3. Will it be possible to monitor the specified baseline indicators?	/1/	DR	It has been confirmed during follow-up interviews that data to calculate the shares of the natural gas and coal in the fuel mix at Novo-Kemerovo CHP plant is available.		OK
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/	DR	The project is not foreseen to have negative environmental impacts caused.		OK
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/	DR, I	The operational and management structure of the project is properly addressed in the PDD. Khimprom's top management has defined		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			respective departments within its organisation and persons responsible for the project implementation and obtaining the monitoring data for each variable.		
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	/1/	DR I	The appropriate documented directions defining responsibilities and authorities for registration, monitoring, measurement and reporting within the project activity will be issued prior to the project start scheduled in October 2007.		OK
D.6.3. Are procedures identified for training of monitoring personnel?	/1/	DR I	It has been clarified that Khimprom maintain procedures (oral and documented) to ensure the personnel is trained to provide monitoring services. There is a special monitoring department in the operational structure of Khimprom.		OK
D.6.4. Are procedures identified for emergency preparedness where emergencies can result in unintended emissions?	/1/	DR	No such situation is foreseen.		OK
D.6.5. Are procedures identified for calibration of monitoring equipment?	/1/	DR I	It has been clarified that Khimprom maintain procedures (including schedule for check-up and calibration of all monitoring devices) to ensure proper calibration and maintenance of all monitoring equipment used at the plant. There is a special monitoring department in the operational structure of Khimprom and it has a valid licence to provide calibration of some equipment in its own laboratory. Other equipment is sent to the Kemerovo regional State metrology service.		OK
D.6.6. Are procedures identified for maintenance	/1/	DR	Yes. See D.6.5.		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
of monitoring equipment and installations?					
D.6.7. Are procedures identified for monitoring, measurements and reporting?	/1/	DR	See D.6.2.		OK
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/	DR	See D.6.2.		OK
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	/1/	DR	See D.6.2.		OK
D.6.10. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	/1/	DR	See D.6.2.		OK
D.6.11. Are procedures identified for project performance reviews?	/1/	DR	The overall performance review of Khimprom and assessment of the effectiveness of the departments is conducted regularly. In addition to it special instructions will be developed for the JI project (See D.6.2.).		OK
D.6.12. Are procedures identified for corrective actions?	/1/	DR	See D.6.2.		OK

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/	DR	Yes.		OK
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	/1/	DR	Yes. The presented GHG calculations documented in a complete and transparent manner and have been verified.		OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	/1/	DR I	The following ex-ante fixed values have been confirmed the site visit: - The minimum heat input and transmission loss from Novo-Kemerovo; - The efficiency of the natural gas boilers; - The CO_2 coefficient of natural gas; - The efficiency of Novo-Kemerovo CHP plant boilers; - The CO_2 coefficient of coal.		OK
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	/1/	DR	Yes.		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	/1/	DR	The CO_2 is considered in the project as main greenhouse gas.		OK
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/	DR	The possible leakages is correctly analysed in the section E.2. of the PDD and assumed negligible. See D.3.1.		OK
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/	DR	Yes.		OK
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	/1/	DR	The project boundary comprises the following CO_2 emission sources: • Khimprom's boilers; • JSC "Cox" facility flaring captive coke oven gas; • Novo-Kemerovo's CHP Plant. Apart from coal and natural gas no other fossil fuels are involved.		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	/1/	DR	In accordance with JISC Guidelines for users of the Joint Implementation Project Design Document Form, section E shall contain estimates of the anthropogenic emissions of greenhouse gases by sources or, alternatively emissions reductions. At the same time, annex 2 shall contain the summary of the key elements of the baseline in tabular form.	~~CAR 4~~	OK
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	/1/	DR	Yes. See B.2.2.		OK
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	/1/	DR	Uncertainties in the GHG emission estimates are addressed in the PDD and assumed to be low.		OK
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	/1/	DR	Yes.		OK
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/	DR	Yes. The forecasted emission reductions are 354 055 tones of CO2eq during crediting period (2008-2012).		OK

Checklist question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
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/	DR	The PDD contains all necessary data and sufficiently describes the environmental impacts from the project activity.		OK
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/	DR I	The project's technical design document is being developed according to national requirements. It was confirmed that PO Khimprom will prepare all necessary technical documentation including a detailed environmental impact assessment and will submit it to the environmental expertise in order to have its endorsement prior to the starting the project activity.		OK
F.1.3. Will the project create any adverse environmental effects?	/1/	DR	No adverse environmental effects additional to the environmental impacts caused by current practice will take place.		OK
F.1.4. Are transboundary environmental impacts considered in the analysis?	/1/	DR	Yes.		OK
F.1.5. Have identified environmental impacts been addressed in the project design?	/1/	DR	Yes. See F.1.3.		OK
F.1.6. Does the project comply with environmental legislation in the host country?	/1/	DR I	Yes.		OK

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests	Ref. to Table 2	Summary of project participants' response	Final determination conclusion
CAR 1 Written approvals from the JI Focal Points of Russia and the sponsor country have not yet been received.	Table 1	A designated national authority for JI has not been appointed in the Russian Federation. Nevertheless, on May 23, 2006 requests for the letter of endorsement from OOO PO "Khimprom" and NEFCO were submitted to the Ministry of Economic Development and Trade of the Russian Federation which is playing the leading role in JI issues. The Investors' Committee of the Baltic Sea Region Testing Ground Facility TGF has agreed on an interim basis that at the point in time when it is required, one investor country among the government investors of the TGF will be listed in the PDD as a Party involved and will issue a letter of approval for the project on behalf of the TGF.	Currently the national procedures for approval of JI projects are not adopted officially in Russia.
CAR 2 The Focal Point of Russia has not yet been designated officially.	Table 1	According to officials at the Ministry of Economic Development and Trade of the Russian Federation the designation is on the agenda but not yet settled by the government. At the point in time when it will be possible to submit the PDD and determination report to the JI Supervisory Committee, Russia is foreseen to have appointed its designated national focal point and have national guidelines and procedures in place for approving JI projects.	Designation of Russian focal point is still pending.

Draft report clarifications and corrective action requests	Ref. to Table 2	Summary of project participants' response	Final determination conclusion
CAR 3 The common practice analysis made in the PDD contradicts with real practice and requirements of the additionality tool.	B.2.7.	The text in step 4 of the Additionality Tool application in the PDD has been added by the necessary examples and explanations. The common practice analysis has been revised accordingly.	OK. It was confirmed that currently the waste coke oven gas utilisation in chemical plants is not wide spread in Russia because the of absence of the source of coke oven gas in the chemicals production cycle. The project design is based on the situation when the coke production plant (related to the metallurgical industry) is located close to chemical plants. However, where possible, industrial enterprises utilise the waste coke oven gas from near situated metallurgical and coke production plants for energy generation purposes. At the same time there is actual distinction between similar activities and the project at Khimprom – valid investment barrier that prevents Khimprom from the possible project implementation. The CAR is therefore closed.
CAR 4 In accordance with JISC Guidelines for users of the Joint Implementation Project Design Document Form, section E shall contain	E.3.3.	The PDD has been corrected in accordance with Guidelines for users of the Joint Implementation Project Design Document.	OK. The CAR is therefore closed.

Draft report clarifications and corrective action requests	Ref. to Table 2	Summary of project participants' response	Final determination conclusion
estimates of the anthropogenic emissions of greenhouse gases by sources or, alternatively emissions reductions. At the same time, annex 2 shall contain the summary of the key elements of the baseline in tabular form.			

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