DETERMINATION REPORT
GLOBAL CARBON B.V.

DETERMINATION OF THE WASTE HEAPS DISMANTLING IN LUHANSK REGION OF UKRAINE BY "FPG "SKHID-ZAKHID" WITH THE AIM OF DECREASING THE GREENHOUSE GASES EMISSIONS INTO THE ATMOSPHERE

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DETERMINATION REPORT

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Client:	**Client ref.:**
Global Carbon B.V.	Lennard de Klerk

Summary:
Bureau Veritas Certification has made the determination of the "Waste Heaps Dismantling in Luhansk Region of Ukraine by "FPG "SKHID-ZAKHID" with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere" project of "FPG "SKHID-ZAKHID" LLC located in Urban village Yasenovskiy of town Rovenki, Luhansk Region, Ukraine on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

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

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

Report No.:	Subject Group:
Ukraine-det/0381/2011	JI

Project title:
"Waste Heaps Dismantling in Luhansk Region of Ukraine by "FPG "SKHID-ZAKHID" with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere"

Work carried out by:

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Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

Global Carbon B.V. has commissioned Bureau Veritas Certification to determine its JI project “Waste Heaps Dismantling in Luhansk Region of Ukraine by “FPG “SKHID-ZAKHID” with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere” (hereafter called “the project”) at urban village Yasenovskiy of town Rovenki, Luhansk Region, Ukraine.

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

1.1 Objective

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

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document, the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

1.3 Determination team

The determination team consists of the following personnel:

Kateryna Zinevych
Bureau Veritas Certification Team Leader, Climate Change Verifier

Olena Manziuk
Bureau Veritas Certification, Climate Change Verifier

Vladimir Lukin
Bureau Veritas Certification Climate Change Verifier

Vladimir Kulish
Bureau Veritas Certification Climate Change Verifier Trainee

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal reviewer

2 METHODOLOGY

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

In order to ensure transparency, a determination protocol was customized for the project, according to the version 01 of the Joint Implementation Determination and Verification Manual, issued by the Joint Implementation Supervisory Committee at its 19 meeting on 04/12/2009. The protocol shows, in a transparent manner, criteria (requirements), means of determination and the results from determining the identified criteria. The determination protocol serves the following purposes:

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

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

2.1 Review of Documents

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

To address Bureau Veritas Certification corrective action and clarification requests, Global Carbon B.V. revised the PDD and resubmitted it on 11/01/2012, 15/02/2012 and 31/05/2012.

The determination findings presented in this report relate to the project as described in the PDD version(s) 1.0, 2.0, 3.0 and 4.0.

2.2 Follow-up Interviews

On 25/10/2011 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of "FPG "SKHID-ZAKHID" LLC and Global Carbon B.V. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
"FPG "SKHID-ZAKHID" LLC	➢ Project history, ➢ Project approach, ➢ Project boundary, ➢ Implementation schedule, ➢ Organizational structure, ➢ Responsibilities and authorities, ➢ Training of personnel, ➢ Quality management procedures and technology, ➢ Rehabilitation/Implementation of equipment (records), ➢ Metering equipment control, ➢ Metering record keeping system, database, ➢ Technical documentation, ➢ Monitoring plan and procedures, ➢ Permits and licenses, ➢ Local stakeholder's response.
Consultant: Global Carbon B.V.	➢ Baseline methodology, ➢ Monitoring plan, ➢ Additionality proofs, ➢ Calculation of emission reduction.

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

If the determination team, in assessing the PDD and supporting documents, identifies issues that need to be corrected, clarified or

improved with regard to JI project requirements, it will raise these issues and inform the project participants of these issues in the form of:

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

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

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

The determination team will make an objective assessment as to whether the actions taken by the project participants, if any, satisfactorily resolve the issues raised, if any, and should conclude its findings of the determination.

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

3 PROJECT DESCRIPTION

The project “Waste Heaps Dismantling in Luhansk Region of Ukraine by “FPG “SKHID-ZAKHID” with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere” is a progressive project that envisages processing and dismantling the waste heaps at the sites of the former Mine # 3-80 GP “Rovenkiantracite” OP “Mine named after M.V. Frunze” and former Mine # 31-32, which are located in urban village Yasenovskiy of town Rovenki, Luhansk Region, Ukraine.

Ukraine is the largest coal mining country in Europe and is among top eight in the world. The centre of coal mining in Ukraine is Donbas, an area located in the eastern part of Ukraine and spreading from the North of Donetsk region to the South of Luhansk region. The coal mining industry is one of the major polluters of the environment in Ukraine. The damage to ecology during the process of coal extraction is caused presumably by corruption of the underground layers, formation of huge spoil areas for waste rock storage, and uncontrolled combustion of coal in the waste heaps.

The main idea of the project is to process waste heaps originated due to coal extraction from mines. This activity will prevent significant amount of

greenhouse gas emissions into the atmosphere, generate considerable amount of coal by use of technology different from mining, and rehabilitate spoiled land to make it suitable for further utilization and afforestation.

The Project activities include installation of the coal extraction facilities near the waste heaps and application of special machinery that will perform preparation, loading and transportation of the rock mass from the waste heaps to the beneficiation factory. After beneficiation procedure, the extracted coal will be sold for heat and power generation, and the remaining bare rock will be stored in a reshaped waste heap with possibility of utilization for land engineering and road building.

The Project envisages carrying out a number of works on coal beneficiation for high-grade anthracite production. The main stages are:

- Building of the beneficiation plant at the territory of the former mine Mine # 3-80 for the purpose of processing four existing not burnt waste heaps (# 1, 2, 3, 5);
- Preparation of the waste heaps to ensure continuous supply of the rock to the beneficiation plant;
- Beneficiation of coal aimed at production of high-quality coal of sort “A” (anthracite);
- Utilizing the discharge substance to form new flat multi-tiered heaps suitable for further recultivation.

All technologies used for coal extraction from the waste heaps are typical and used in the other plants, hence no weaknesses are expected.

The project objective is to reduce anthropogenic greenhouse gas emissions into the atmosphere. Moreover, the project will contribute to improvement of ecological situation in the region.

The mentioned above objective to be achieved by coal extraction from coal containing waste heaps in order to prevent CO_2eq emissions into the atmosphere which are occurring as the result of waste heaps spontaneous burning and also to obtain additional quantities of coal. An important result of waste heaps coal extraction with further processing of the waste heaps mass is the exclusion of unfavourable ecological impacts of the waste heaps (dust emissions, greenhouse gas emissions, harmful gases and pollutants emissions, polluted waste water discharge from the surface of the waste heaps into the environment). Waste heaps coal extraction and the usage of the rock mass enables further reclamation of the renewed land from the waste heaps and efficient economical use of the area, which is restored for construction needs.

The benefits provided by the JI mechanism were crucial in the decision to implement the project. Decision on the project implementation was taken

on the 12th of May 2008. Project and construction period lasted from January 2009 to March 2011. Operation of the plant started on the 1st of April 2011.

Coal extracted from the waste heaps will substitute the coal from the mines and will be used mainly for energy production purposes at coal-fired power plants. Coal mining is a source of the fugitive emissions of methane; therefore, the project activity will reduce methane emissions by reducing the amount of coal required to be mined.

Emission reductions due to the implementation of this project will come from two major sources:

- Removing the source of green-house gas emissions from the combustion of waste heaps by the extraction of coal from the waste-heaps;
- Reduced fugitive emissions of methane due to the replacement of coal that would have been mined by the project.

Waste heaps are sources of uncontrolled green-house gas emissions, hazardous substances emissions, particle emissions, ground water contamination. Addressing problems of waste heaps is costly and is not addressed in a systematic way in Ukraine. Efforts to stop burning waste heaps and break them down completely are in line with the existing environmental legislation of Ukraine. The proposed project is positively evaluated by local authorities.

CARs (CAR01-CAR06), CL (CL 01, CL 06 – CL 07) and their resolutions/conclusions applicable to project description are listed in the Appendix A: Determination protocol (Table 2) below.

4 DETERMINATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 19 Corrective Action Requests and 7 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

The project has already received Letter of Endorsement № 3539/23/7 on the JI project "Waste Heaps Dismantling in Luhansk Region of Ukraine by "FPG "SKHID-ZAKHID" with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere" dated 01/12/2011 issued by the State Environmental Investment Agency of Ukraine. Declaration of Approval with the number 2011JI44 was issued by the DFP of the Netherlands (State NL Agency Ministry of Economic Affairs, Agriculture and Innovation) on 20/01/2012.

Bureau Veritas Certification received these letters from the project participants and does not doubt their authenticity.

As for the time being no written approval for the project was issued by Ukrainian Party. After receiving Determination Report from the Accredited Independent Entity the project documentation will be submitted to the Ukrainian Designated Focal Point (DFP) which is State Environmental Investment Agency of Ukraine, for receiving a Letter of Approval.

Bureau Veritas Certification considers the letters to be unconditional in accordance with paragraphs 19-20 of the DVM.

CARs (CAR 07, CAR 08) and their resolutions/conclusions applicable to project approvals are listed in the Appendix A: Determination Protocol (Table 2) below.

4.2 Authorization of project participants by Parties involved (21)

The official authorization of each legal entity listed as project participant in the PDD by Parties involved will be provided in the written project approvals (refer to 4.1 above).

No outstanding issues were raised.

4.3 Baseline setting (22-26)

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

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

(a) By listing and describing the following plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one:

a. <u>Scenario 1.</u> *Continuation of existing situation*
In the current situation waste heaps are not utilised. Coal contained in the waste heaps is not a subject of extraction and; as a result, spontaneous self-heating and subsequent burning of waste heaps leading to uncontrolled GHG emissions is very common. Coal is produced by underground mines, which causes fugitive emissions of methane as well as the formation of new waste heaps.

b. <u>Scenario 2.</u> *Direct energy production from the heat energy of burning waste heap*
Waste heaps are not extinguished and not monitored properly. Some burning heaps are used to produce energy by direct insertion of heat exchangers into the waste heap. This captures a certain amount of heat energy for direct use or conversion into electricity. Coal for industrial use is not extracted from the waste heaps under this scenario. Coal is produced by underground mines of the region and used for energy production or other purposes. Mining activities result in fugitive gas release, and the formation of more waste heaps.

c. <u>Scenario 3.</u> *Production of construction materials from waste heap matter*
Waste heaps are being processed in order to produce construction materials (bricks, panels, etc.). Coal in the waste heap matter is burnt during the agglomeration process. Coal is produced by underground mines of the region and used for energy production or other purposes. Mining activities result in fugitive gas release, and the formation of more waste heaps.

d. <u>Scenario 4.</u> *Coal extraction from waste heaps without JI incentives*
Although this scenario is similar to the project activity only, the project itself does not benefit from the possible development as a joint implementation project. In this scenario waste heaps are processed in order to extract coal and use it in the energy sector. Less coal is produced by underground mines of the region.

e. <u>Scenario 5.</u> *Systematic monitoring of waste heaps condition, regular fire prevention and application of extinguishing measures*
Waste heaps are systematically monitored and its thermal condition is observed. Regular fire prevention measures are taken. Coal is not extracted from the waste heaps, but is produced by underground mines and used for energy

production or other purposes. Mining activities result in fugitive gas release and formation of more waste heaps.

(b) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. In this context, the following key factors that affect a baseline are taken into account:

a. Although efforts to stop burning waste heaps and break them down are completely in line with the existing environmental legislation of Ukraine, the solution of these problems is rather costly, requires significant efforts and, actually, is not addressed in a systematic way in Ukraine. The main reason is deficiency of necessary financial resources and lack of political will. The situation is deteriorated by the fact that coal mining itself has decreased over the last 10-12 years as a result of the lack of financing and high net cost of coal extraction;
b. Key factors that affect the baseline such as sectoral reform policies and legislation, economic situation/growth and socio-demographic factors as well as decreasing and/or increasing demand to be met by the project, availability of capital, technologies/techniques, skills and know-how, availability of best available technologies/techniques in the future, fluctuations in fuel prices, national expansion plans for the energy;
c. Describe any availability of capital (including investment barriers) Ukraine is considered to be a high risk country for doing business and investing in. Almost no private capital is available from domestic or international capital markets for mid to long term investments, and any capital that is available has high cost. In table 9 the PDD Version 4.0 dated 31 May, 2012 represents risks of doing business in Ukraine according to various international indexes and studies;
d. The most plausible future scenario identified by performing a barrier analysis. Key factors that affect the baseline such as sectoral reform policies and legislation, economic situation/growth and socio-demographic factors as well as decreasing and/or increasing demand to be met by the project, availability of capital, technologies/techniques, skills and know-how, availability of best available technologies/techniques in the future, fluctuations in fuel prices, national and/or subnational expansion plans for the energy sector taken into account while formulating the plausible feature scenarios;
e. Ukrainian coal sector is largely state-controlled. Energy and Coal Ministry of Ukraine decides production level of state

mines, based on their performance. After this, state controlled mines sell their coal to the state Trading Company "Coal of Ukraine". This company also buys coal from private mines and arranges supply of coal to thermal electricity companies. Prices for coal mines differ significantly for public and private mines. In general, prices of state mines are more than 60% higher than the prices for private enterprises;

f. The role of energy sector is absolute and crucial for Ukraine. Power sector is a political factor of sovereignty in Ukraine. Ukrainian economy is considered to be one of the most energy intensive in the world in terms of the consumption of primary energy per a gross domestic product unit. On March 15, 2006 the Cabinet of Ministers of Ukraine adopted “Energy Strategy of Ukraine till 2030”. The Energy strategy considers exploration of alternative and renewable energy sources as a significant factor in increasing the level of energy safety, decrease of energy anthropogenic impact on the environment and counteractions against global climate change.

The alternatives have been identified based on national practice and reasonable assumptions with regard to the sectoral legislation and reform, economic situation in the country, availability of raw materials and fuel as well as technologies and logistics etc.

Existing Ukrainian laws and regulations treat waste heaps as sources of possible dangerous emissions into the atmosphere. In general the burning of waste heaps should be extinguished and measures must be taken to prevent fires in the future. However, due to the large numbers of waste heaps and their substantial sizes, combined with the limited resources of the owners, they typically do not even undertake the minimum required regular monitoring. Even when informed of a burning waste heap, and measures have to be taken under existing legislation, it is more typical to accept the fine for air contamination, rather than take action to extinguish the burning waste heap itself.

In such circumstances it is safe to say that all scenarios do not contradict existing laws and regulations.

All scenarios, except Scenario 1 - Continuation of existing situation, face prohibitive barriers. Therefore, continuation of existing situation is the most plausible future scenario and is the baseline scenario.

The project “Processing of waste heaps at Monolith-Ukraine” is selected as the comparable JI project. Accredited independent entity has already positively determined that it would result in a reduction of anthropogenic emissions by sources or an enhancement of net anthropogenic removals by sinks that is additional to any that would otherwise occur. This

determination has already been deemed final by the JISC. Appropriate documentation such as PDD and Determination Report regarding this project is available traceably and transparently on the UNFCCC JI Website:
http://ji.unfccc.int/JI_Projects/DB/IPT7L3CLGIZTGGX27T2101W7XCUCW/Determination/DNV-CUK1315829182.27/viewDeterminationReport.html

CARs (CAR 09, CAR 10), CL 02 and their resolutions/conclusions applicable to baseline setting are listed in the Appendix A: Determination protocol (Table 2) below.

4.4 Additionality (27-31)

The PDD provides a justification of the applicability of the approach with a clear and transparent description, as per item 4.3 above.

The developer of the project proved that anthropogenic emissions under the project are lower than the emissions that would take place in the absence of the project activity.

Additionality proofs are provided. Five plausible and realistic alternative scenarios were identified for each type of modernization identified in the project:

- Continuation of existing situation
- Direct energy production from the heat energy of burning waste heap
- Production of construction materials from waste heap matter
- Coal extraction from waste heaps without JI incentives
- Systematic monitoring of waste heaps condition, regular fire prevention and application of extinguishing measures

Additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

The identified areas of concern as to additionality, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR 11 – CAR 13; CL 03).

4.5 Project boundary (32-33)

The project boundary defined in the PDD, which in accordance with the specific approach is delineated by the physical site of the entire technological complex, encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

(i) Under the control of the project participants, such as:
- Carbon dioxide emissions from the use of fuel to run part of the project equipment (motor cars),

- Carbon dioxide emissions associated with the electricity consumption by the project equipment.

(ii) Reasonably attributable to the project; and

(iii) Significant, i.e., as a rule of thumb, would by each source account on average per year over the crediting period for more than 1 percent of the annual average anthropogenic emissions by sources of GHGs, or exceed an amount of 2,000 tonnes of CO_2 equivalent, whichever is lower.

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

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

The identified areas of concern as to project boundary, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CL 04).

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project began, and the starting date is 19/01/2009, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 15 years and 0 months or 180 months.

The PDD states the length of the crediting period in years and months, which is 15 years and 0 months or 180 months, and the date on which first emission reductions or enhancements of net removals are generated by the project.

The PDD states that the crediting period for the issuance of ERUs starts on 01/04/2011 which is after the beginning of 2008 and does not extend beyond the operational lifetime of the project.

The PDD states that the extension of its crediting period beyond 2012 is subject to the host Party approval, and the estimates of emission reductions are presented separately for those until 2012 and those after 2012 in all relevant sections of the PDD.

The identified areas of concern as to crediting period, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CL 05).

4.7 Monitoring plan (35-39)

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

The monitoring plan describes all the necessary factors and key characteristics that will be monitored, and the period during which they will be monitored, particularly all the critical factors for controlling and reporting on project activities, such as reporting forms, the operating structure and management structure of the enterprise, that will be applied when implementing the monitoring plan.

The monitoring plan specifies the parameters, constant values and variables that are reliable (i.e. consistent and accurate values), dependable (i.e. that is clearly related to results that are measured) and provide a clear picture of emission reductions that are subject to monitoring, such as: total amount of diesel fuel, coal and electricity consumed.

The monitoring plan has properly given a list of standard variables that are contained in Annex B to the "Guidance on criteria for baseline setting and monitoring" developed by the JISC, including: baseline emissions (BE_y, $BE_{XX,y}$), project emissions (PE_y, $PE_{XX,y}$), electricity consumption (EC_y), CO_2 emission factor ($EF_{CO2,XX}$, $EF_{CH4,XX}$, $EF_{CO2,ELEC,y}$), leakages in year - LE_y, $LE_{XX,y}$, global warming potential - GWP_{XX}, density - ρ_x, net calorific value - NCV_{XX}, fuel quantity combusted - FC_{XX}, oxidation factor for fuel combustion $OXID_{XX}$.

The monitoring plan explicitly and clearly distinguishes:

(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as:

GWP_{CH4}	Global Warming Potential of Methane
ρ_{CH4}	Methane density
p_{WHB}	Correction factor for the uncertainty of the waste heaps burning process

(ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination: none.

(iii) Data and parameters that are monitored throughout the crediting period, such as:

$EC_{PJ,y}$	Additional electricity consumed in year *y* as a result of the implementation of the project activity
$FC_{PJ,Diesel,y}$	Amount of diesel fuel that has been used for the project activity in year *y*
$EF_{CO2,EL,y}$	CO_2 emission factor for 2nd voltage class grid connected power consumption in year *y* for JI project consuming electricity
$FC_{BE,Coal,y}$	Amount of coal that has been mined in the baseline scenario and combusted for energy use, equivalent to the amount of coal extracted from the waste heaps in the project activity in year *y*
$NCV_{Coal,y}$	Net Calorific Value of coal in year *y*
$NCV_{Diesel,y}$	Net Calorific Value of diesel fuel in year *y*
$OXID_{Coal,y}$	Carbon Oxidation factor of coal in year *y*
$OXID_{Diesel,y}$	Carbon Oxidation factor of diesel fuel in year *y*
$k^{C}_{Diesel,y}$	Carbon content of diesel fuel in year *y*
$k^{C}_{Coal,y}$	Carbon content of coal in year *y*
$EF_{CH_4,CM,y}$	Emission factor for fugitive methane emissions from coal mining in year *y*

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording. For any monitoring period the following parameters have to be collected and registered:

- additional electricity consumed in the relevant period as a result of the implementation of the project activity;
- amount of diesel fuel that has been used for the project activity in the relevant period;
- amount of coal that has been extracted from the waste heaps and combusted for energy use in the project activity in the relevant period which is equal to the amount of coal that has been mined in the baseline scenario and combusted for energy use.

The monitoring plan elaborates all algorithms and formulae (numbering corresponds to the PDD) used for the estimation/calculation of baseline emissions, leakage and project emissions.

Emissions from the project activity are calculated as follows:

$$PE_y = PE_{EL,y} + PE_{Diesel,y}, \qquad \text{(Equation 5)}$$

Where:

PE_y, - Project Emissions due to project activity in year *y* (t CO_2eq),

$PE_{EL,y}$ - Project Emissions due to consumption of electricity from the grid by the project activity in year *y* (t CO_2eq),

$PE_{Diesel,y}$ - Project Emissions due to consumption of diesel fuel by the project activity in year *y* (t CO_2eq).

These, in turn, are calculated as:

$$PE_{EL,y} = EC_{PJ,y} \cdot EF_{CO2,EL,y}, \quad \text{(Equation 6)}$$

where:

$EC_{PJ,y}$ - Additional electricity consumed in year *y* as a result of the implementation of the project activity (MWh),

$EF_{CO2,EL,y}$ - CO_2 emission factor for 2nd voltage class grid connected power consumption in year *y* for JI project consuming electricity.

$$PE_{Diesel,y} = \frac{FC_{PJ,Diesel,y}}{1000} \cdot NCV_{Diesel,y} \cdot OXID_{Diesel,y} \cdot k^{C}_{Diesel,y} \cdot 44/12, \quad \text{(Equation 7)}$$

where:

$FC_{PJ,Diesel,y}$ - Amount of diesel fuel that has been used for the project activity in year *y*, t.

p_{WHB} - Correction factor for the uncertainty of the waste heap burning process. This factor is defined on the basis of the survey of all the waste heaps in the area that provides a ratio of waste heaps that are or have been burning at any point in time to all existing waste heaps.

$NCV_{Diesel,y}$ - Net calorific value of Diesel in year y, (TJ/kt);

$OXID_{Diesel,y}$ - Carbon Oxidation factor of Diesel in year y, (ratio);

$k^{C}_{Diesel,y}$ - Carbon content of Diesel in year y, (tC/TJ);

44/12 - Ratio between molecular mass of CO_2 and C. Reflects oxidation of C to CO_2.

Emissions in the baseline scenario are calculated as follows:

$$BE_{y} = BE_{WHB,y}, \quad \text{(Equation 8)}$$

Where:

BE_{y} - Baseline Emissions in year y, (t CO_2eq);

$BE_{WHB,y}$ - Baseline Emissions due to burning of the waste heaps in year y (t CO_2eq).

These, in turn, are calculated as:

$$BE_{WHB} = \frac{FC_{BE,Coal,y}}{1000} \cdot p_{WHB} \cdot NCV_{Coal,y} \cdot OXID_{Coal,y} \cdot k^{C}_{Coal,y} \cdot 44/12, \quad \text{(Equation 9)}$$

Where:

$FC_{BE,Coal,y}$ - Amount of coal that has been mined in the baseline scenario and combusted for energy use, equivalent to the amount of coal extracted from the waste heaps in the project activity in year *y*, (t);

p_{WHB} - Correction factor for the uncertainty of the waste heap burning process. This factor is defined on the basis of the survey of all the waste heaps in the area that provides a ratio of waste heaps that are or have been burning at any point in time to all existing waste heaps.

$NCV_{Coal,y}$ - Net calorific value of coal in year y, (TJ/kt);

$OXID_{Coal,y}$ - Carbon Oxidation factor of coal in year y, (ratio);

$k^{C}_{Coal,y}$ - Carbon content of coal in year y, (tC/TJ);

44/12 - Ratio between molecular mass of CO_2 and C. Reflects oxidation of C to CO_2.

$$LE_{y} = LE_{CH_4,y} \qquad \text{(Equation 10)}$$

Where:

LE_{y} - Leakages in year *y*, (t CO_2eq).

$LE_{CH_4,y}$ - Leakages due to fugitive emissions of methane in the mining activities in year *y* (t CO_2eq).

Leakages due to fugitive emissions of methane in the mining activities are calculated as follows):

$$LE_{CH_4,y} = -FC_{BE,Coal,y} \cdot EF_{CH_4,CM,y} \cdot \rho_{CH_4} \cdot GWP_{CH_4}, \qquad \text{(Equation 11)}$$

Where:

$FC_{BE,Coal,y}$ - Amount of coal that has been mined in the baseline scenario and combusted for energy use, equivalent to the amount of coal extracted from the waste heaps in the project activity in year *y*, (t).

$EF_{CH_4,CM,y}$ - Emission factor for fugitive methane emissions from coal mining in year y, (m^3/t);

ρ_{CH4} - Methane density, (t/m^3);

GWP_{CH4} - Global Warming Potential of Methane, (tCO_2e/ t CH_4).

The annual emission reductions are calculated as follows:

$$ER_{y} = BE_{y} - LE_{y} - PE_{y} \qquad \text{(Equation 12)}$$

where:

ER_y - Emissions reductions of the JI project in year *y* (t CO_2eq)

LE_y - Leakages in year *y* (t CO_2eq);

BE_y - Baseline Emission in year *y* (t CO_2eq);

PE_y - Project Emission in year *y* (t CO_2eq).

The monitoring plan presents the quality assurance and control procedures for the monitoring process, which are sufficiently described in tabular form in sections of the PDD D.1.1.1., D.1.1.3. and D.2. This includes, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities:

- Electricity Consumption — Chief power engineer
- Coal production and delivery — Deputy director
- Diesel fuel consumption — Deputy director

For monitoring, collection, registration, visualization, archiving, reporting of the monitored data and periodical checking of the measurement devices the management team headed by the Director of the company is responsible. A detailed structure of the team and team members will be established in the Monitoring Manual prior to initial and first verification.

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

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, expert judgment, proprietary data, IPCC, commercial and scientific literature etc.) but not including data that are calculated with equations.

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

The identified areas of concern as to the monitoring plan, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 14 – CAR 17).

4.8 Leakage (40-41)

The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains which sources of leakage are to be calculated, and which can be neglected.

This project will result in a net change in fugitive methane emissions due to the mining activities. As coal in the baseline scenario is only coming from mines it causes fugitive emissions of methane. These are calculated

as standard country specific emission factor applied to the amount of coal that is extracted from the waste heaps in the project scenario (which is the same as the amount of coal that would have been mined in the baseline scenario). Source of the leakage is the fugitive methane emissions due to coal mining. These emissions are specific to the coal that is being mined. Coal produced by the project activity is not mined but extracted from the waste heap through the advanced beneficiation process. Therefore, coal produced by the project activity substitutes the coal would have been otherwise mined in the baseline. Coal that is mined in the baseline has fugitive methane emissions associated with it and the coal produced by the project activity does not have such emissions associated with it.

The PDD provides a procedure for estimation of leakage.

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

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

The PDD provides estimates of:

(a) Emissions in the project scenario (within the project boundary), which are:

- 11 825 tonnes of CO_2eq in 2011-2012;
- 89 531 tonnes of CO_2eq in 2013-2026.

(b) Leakage, which is:

- - 113 771 tonnes of CO_2eq in 2011-2012;
- - 861 409 tonnes of CO_2eq in 2013-2026.

(c) Emissions in the baseline scenario (within the project boundary), which are:

- 440 163 tonnes of CO_2eq in 2011-2012;
- 3 332 666 tonnes of CO_2eq in 2013-2026.

(d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are:

- 542 109 tonnes of CO_2eq in 2011-2012;
- 4 104 544 tonnes of CO_2eq in 2013-2026.

The estimates referred to above are given:

(a) On an annual basis;

(b) From 01/04/2011 to 31/03/2026, covering the whole crediting period;

(c) Based on primary sources;

(d) For each GHG gas, such as CO_2;

(e) In tonnes of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or amended in accordance with Article 5 of the Kyoto Protocol.

Formulae for calculating the above estimations are given in section 4.7. All formulae are in the correct sequence and compliance across the PDD.

For calculating the estimates referred to above, key factors, e.g. energy prices and availability, market development influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating the estimates referred to above, such as feasibility studies, production forecasts, actual historical monitored data are clearly identified, reliable and transparent.

Emission factors, such as emission factor for electricity consumption, emission factor for diesel fuel and coal, were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

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

The estimates referred to above are consistent throughout the PDD.

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

Detailed algorithms of calculations and their results are described in section D, E and supporting documents to the PDD.

The identified areas of concern as to the evaluation of emission reductions, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 18).

4.10 Environmental impacts (48)

Sections F.1. and F.2. of the PDD provide information about the documentation that contains the analysis of environmental impacts caused by the project, including the transboundary impact, in accordance with procedures defined by the Host Party.

The Host Party for this project is Ukraine. Environmental Impact Assessment (EIA) is the part of the Ukrainian project planning and permitting procedures. Implementation regulations for EIA are included in the Ukrainian State Construction Standard DBN A.2.2.-1-95 (amended 2003) (Title: "Structure and Contents of the Environmental Impact Assessment Report (EIR) for Designing and Construction of Production Facilities, Buildings and Structures").

The full scope EIA in accordance with the Ukrainian legislation has been performed for the proposed project in 2011 by SPE "Firma Pryroda". Key findings of this EIA are summarized in section F.1 of the PDD.

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party, if the analysis referred to above indicates that the environmental impacts are considered significant by the project participants or the host Party.

The identified areas of concern as to the environmental impacts, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 19).

4.11 Stakeholder consultation (49)

The project activities do not imply any negative environmental impact and negative social effect. Consultations with stakeholders were held in meetings of local authorities.

Public has been informed about the planned economic activities with the goal to identify public attitudes and take opinion in account during environmental impact assessment process. Public was informed about the project, especially about the following information:

- project name, goals and site;
- legal name and address of project owner and its representative;
- approximate dates of EIAs procedures;
- deadline and formats of submission of public comments;
- when and where EIA documents can be retrieved.

All comments relating to the project implementation were positive. No negative comments were received.

No outstanding issues were raised.

4.12 Determination regarding small scale projects (50-57)

Not applicable.

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

Not applicable.

4.14 Determination regarding programmes of activities (65-73)

Not applicable.

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

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

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the “Waste Heaps Dismantling in Luhansk Region of Ukraine by “FPG “SKHID-ZAKHID” with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere" Project in Ukraine. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The determination consisted of the following three phases:

i) a desk review of the project design and the baseline and monitoring plan;
ii) follow-up interviews with project stakeholders;
iii) the resolution of outstanding issues and the issuance of the final determination report and opinion.

The additionality of the project has been assessed through provision of traceable and transparent information showing that the same approach for additionality demonstration has already been taken in cases for which determination is deemed final and which can be regarded as comparable,

as suggested in item “b)“ of Paragraph 44 of “Guidance on criteria for baseline setting and monitoring” version 03. The PDD identifies a comparable project, demonstrates that the identified project is a comparable project (to be) implemented under comparable circumstances, and provides justification, that determination for a comparable project is relevant for the project at hand.

Emission reductions that occur due to the project are therefore additional to those that would have occurred without the project activity. On condition of the introduction and implementation of the project according to the design decision, the project is likely to reach the estimated amount of emission reductions.

The review of the project design documentation and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

The determination revealed one pending issue related to the current determination stage of the project: the written approval of the project by the host Country (Ukraine) wasn’t obtained. If the written approval by the host Country is provided, it is our opinion that the project as described in the Project Design Document, version 4.0 dated 31/05/2012 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Country criteria as well as expectations of the stakeholders.

The review of the project design documentation (version 4.0 dated 31/05/2012) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

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

7 REFERENCES

Category 1 Documents:
Documents provided by Global Carbon B.V. that relate directly to the GHG components of the project.

/1/ Project Design Document “Waste Heaps Dismantling in Luhansk Region of Ukraine by “FPG “SKHID-ZAKHID” with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere.” version 1.0 dated 12/10/2011
/2/ Emission Reductions Calculation version 1.0 excel file dated 12/10/2011
/3/ Project Design Document “Waste Heaps Dismantling in Luhansk Region of Ukraine by “FPG “SKHID-ZAKHID” with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere.” version 2.0 dated 11/01/2012
/4/ Emission Reductions Calculation version 2.0 excel file dated 11/01/2012
/5/ Project Design Document “Waste Heaps Dismantling in Luhansk Region of Ukraine by “FPG “SKHID-ZAKHID” with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere.” version 3.0 dated 15/02/2012
/6/ Emission Reductions Calculation version 3.0 excel file dated 15/02/2012
/7/ Project Design Document “Waste Heaps Dismantling in Luhansk Region of Ukraine by “FPG “SKHID-ZAKHID” with the Aim of Decreasing the Greenhouse Gases Emissions into the Atmosphere.” version 4.0 dated 31/05/2012
/8/ Emission Reductions Calculation version 4.0 excel file dated 31/05/2012
/9/ Supporting document “processing” excel file
/10/ LoE No 3539/23/7 dated 01/12/2011 issued by the State environmental Investment Agency of Ukraine
/11/ Declaration of Approval #2011JI44 dated 20/01/2012 issued by the State NL Agency Ministry of Economic Affairs, Agriculture and Innovation

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ Operational manual on hydrocyclones battery type БГц6-250xM-M, inventory # 036
/2/ Package certificate on hydrocyclones battery type БГц6-250xM-M, serial # 5
/3/ Acceptance certificate on hydrocyclones battery type БГц6-250xM-M, serial # 5

/4/ Photo – Raw material transporting conveyor
/5/ Photo – Convey speed meter
/6/ Photo – Hydrocyclones battery type БГц6-250хМ-М
/7/ Photo – Concentrated coal siftings machine
/8/ Photo – Slurry preparation tank
/9/ Photo – Frequency transducer and controlling drivers
/10/ Photo – Plant operating equipment control panel
/11/ Mnemocircuit of factory
/12/ Photo – Control desk
/13/ Hydrocyclone control box
/14/ General view of coal warehouse
/15/ Photo – Dump-track
/16/ General view of main concentrating plant building
/17/ Log book of out coming goods for 25/10/2011
/18/ Centrifuge type ЦфШнГ-1,00-МР-06. Log book ЦШГК.00.000 ФО
/19/ Package certificate on centrifuge type ЦфШнГ-1,00-МР-06, serial # 03
/20/ Acceptance certificate on centrifuge type ЦфШнГ-1,00-МР-06, serial # 03
/21/ Log book on inertial cribble type ЦфШнГ-8,0Х2-М00.000 ФО, inventory # 051
/22/ Log book on inertial cribble type ЦфШнГ-8,0Х2-М00.000 ФО, inventory # 052
/23/ Operational manual on inertial cribble type ЦфШнГ-8,0Х2-М00.000 ФО
/24/ Passport on inertial cribble type ГІСТ41С.00.000 ПС, inventory # 061
/25/ Operational manual on inertial cribble type ГІСТ41С.00.000 РЄ
/26/ Passport on hydrocyclone type ГТ-710 МПК, inventory # 049
/27/ Operational manual on inertial cribble type ГВС-4,2х1.00.000 РЄ
/28/ Operational manual on hydrocyclones battery type БГц6-250хМ-М, inventory # 035
/29/ Operational manual on spiral separators type БСС-6, inventory # 044
/30/ Operational manual on pump type 8/6 Е-АН
/31/ Operational manual on cribble type ГІсМх-11,0х2-М
/32/ Passport on cribble type ГІсМх-11,0х2-М
/33/ Package certificate on cribble type ГІсМх-11,0х2-М, serial # 11
/34/ Acceptance certificate on cribble type ГІсМх-11,0х2-М, serial # 11
/35/ Order # 14 dated 30.03.2011
/36/ Order dated 19/04/2011 on data collection and storing in “FPG Skhid-Zakhid” LLC
/37/ Invoice # 6 dated 19/08/2011 on diesel fuel
/38/ Waybill # 221 dated 19/08/2011 on diesel fuel
/39/ Invoice # 6 dated 22/07/2011 on diesel fuel
/40/ Waybill # 214 dated 19/08/2011 on diesel fuel
/41/ Invoice # 6 dated 27/07/2011 and invoice # 4 dated 21/07/2011 on

diesel fuel.

/42/ Waybill # 206 dated 21/06/2011 on diesel fuel
/43/ Waybill # 208 dated 27/06/2011 on diesel fuel
/44/ Invoice # 6 dated 27/07/2011 on diesel fuel. Invoice # 7 dated 30/05/2011 on diesel fuel
/45/ Waybill # 193 dated 27/05/2011 on diesel fuel
/46/ Waybill # 194 dated 30/05/2011 on diesel fuel
/47/ Invoice # 6 dated 27/07/2011 on diesel fuel
/48/ Waybill # 865 dated 07/04/2011 on diesel fuel
/49/ Invoice # 75 dated 27/04/2011 on diesel fuel
/50/ Waybill # 866 dated 27/04/2011 on diesel fuel
/51/ Invoice # СФ-00091 dated 29/04/2011 on electric energy cost compensation
/52/ Invoice # СФ-00093 dated 31/05/2011 on electric energy cost compensation
/53/ Invoice # СФ-00097 dated 30/06/2011 on electric energy cost compensation
/54/ Invoice # СФ-00105 dated 31/06/2011 on electric energy cost compensation
/55/ Invoice # СФ-00110 dated 31/07/2011 on electric energy cost compensation
/56/ Invoice # СФ-00110 dated 30/09/2011 on electric energy cost compensation
/57/ Invoice # 341 dated 30/04/2011 on electric energy payment
/58/ Invoice # 341 dated 31/05/2011 on electric energy payment
/59/ Invoice # 341 dated 30/06/2011 on electric energy payment
/60/ Invoice # 341 dated 31/07/2011 on electric energy payment
/61/ Invoice # 341 dated 31/08/2011 on electric energy payment
/62/ Invoice # 341 dated 30/09/2011 on electric energy payment
/63/ Invoice # 381 dated 30/04/2011 on electric energy payment
/64/ Invoice # 381 dated 31/05/2011 on electric energy payment
/65/ Invoice # 381 dated 30/06/2011 on electric energy payment
/66/ Invoice # 381 dated 31/07/2011 on electric energy payment
/67/ Invoice # 381 dated 31/08/2011 on electric energy payment
/68/ Invoice # 381 dated 30/09/2011 on electric energy payment
/69/ Measuring equipment inspection certificate dated 19/05/2011 on electric meter, serial # 648865
/70/ Measuring equipment inspection certificate dated 19/05/2011 on electric meter, serial # 648866
/71/ Information note on “FPG Skhid-Zakhid” LLC electric measuring devices
/72/ Information note on “Ukrluhtec” LLC electric measuring devices
/73/ Technical calibration certificate on electric meter dated 10/06/2009
/74/ Operational manual on multi-tariff active and reactive energy meter type LZQM, EPQM
/75/ Work project. Environmental impact assessment
/76/ Information for local stakeholders, concerning in the “Market”

newspaper
/77/ Conclusion of State Ecological Expert Commission # 12/24.03.2011-081 dated 19/05/2011
/78/ Positive conclusion of state complex expertise # 13-0623-11(13-0026-11) dated 15/07/2011
/79/ “FPG Skhid-Zakhid” LLC Letter # 198-з on state complex expertise, dated 15/07/2011
/80/ Conclusion # 44.05.360 CH of the work safety expertise
/81/ Permit # 4412347700-20 on stationary sources air pollution valid from 21/10/2011till 21/10/2016
/82/ Permit # Укр 037 Луг on special water use dated 14/07/2010
/83/ Appendix to permit # Укр 037 Луг on special water use
/84/ Enrichment coal technical characteristic
/85/ Permit # 451.11.09-10.10.1 on the operation start, valid from 26/06/2011till 29/06/2011
/86/ Permit # 14.10.30-10.10.1 on the operation start, valid from 12/01/2010 till 12/01/2013
/87/ Appendix to permit # 14.10.30-10.10.1 on the operation start
/88/ Conclusion # 6/486 dated 29/03/2011
/89/ Expert conclusion # 26/1296 dated 05/07/2011
/90/ Expert conclusion # 2011 B 12—0201
/91/ Work project “Building and service of the beneficiation plant, garages, grading complex at the territory of the former mine # 3-80”
/92/ Operational manual on electronic scales type DINO, serial # 8003
/93/ Acceptance certificate on scales type JUMBO, serial # 8003
/94/ First calibration information on scales type DINO, serial # 8003
/95/ Commissioning information on scales type DINO, serial # 8003 dated 06/10/2011
/96/ Warranty certificate on JUMBO, serial # 8003 dated 06/10/2011
/97/ Photo – Flocculate preparation tanks
/98/ Photo – Coal filter
/99/ Photo – Hydrocyclone battery
/100/ Photo – Transporting conveyor control panel
/101/ Photo – Marshalling box
/102/ Photo – Hydrocyclone battery
/103/ Photo – Prepared flocculate tank
/104/ Photo – Cribble
/105/ Photo – Cribble suspending spring
/106/ Cribble out come goods
/107/ Photo – Transporting conveyor of prepared goods
/108/ Photo – Cribbles technologic holes
/109/ Photo – Emergency stop panel

Persons interviewed:

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

/1/ Grabarenko Lidiya Viktorovna - Director of “FPG Skhid-Zakhid” LLC

/2/ Martychenko Viktor Nikolayevich - Deputy Director for production of “FPG Skhid-Zakhid” LLC

/3/ Bundyuk Sergei Grigorievich - Labor Protection Engineer of “FPG Skhid-Zakhid” LLC

/4/ Tsukanov Alexandr Ivanovich - Chief Energy Officer of “FPG Skhid-Zakhid” LLC

/5/ Petruk Iurii Volodymyrovych – JI Consultant of Global Carbon B.V.

/6/ Vilde Anna Voldemarovna – Senior JI Consultant of Global Carbon B.V.

/7/ Antipov Vladislav Igorevich – Deputy Head of Company Representation in South-East Ukraine Global Carbon B.V.

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APPENDIX A: COMPANY PROJECT DETERMINATION PROTOCOL

DETERMINATION PROTOCOL

Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
General description of the project				
Title of the project				
-	Is the title of the project presented?	Yes, the title of the project is presented	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Sectoral scope was set for the project: 8. Mining/mineral production	OK	OK
-	Is the current version number of the document presented?	Current version of the PDD: 1.0 *Corrective Action Request 01* Please correct the date of the current version of used PDD template.	CAR 01	OK
-	Is the date when the document was completed presented?	Date of the completed PDD: 4th of October 2011	OK	OK
Description of the project				
-	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description)?	The main objective of the project is aimed at achieving GHG emission reductions through processing waste heaps of old coal mines in Luhansk region of Ukraine. *Corrective Action Request 02* Please briefly summarize the chosen baseline scenario in section A.2 of the PDD. *Clarification Request 06* Project scenario envisages that the waste heaps extracted coal will substitute mine coal for energy generation. No	CAR 02 CL 06 CL 07	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		further evidence that this will take place. Used model does not take it into account. *Clarification Request 07* CH_4 emission factor is chosen for the mine extraction. Open pit coal extraction option is not regarded; justification of the chosen emission factor is not provided either.		
-	Is the history of the project (incl. its JI component) briefly summarized?	Brief history of the project including its JI component is presented in the PDD	OK	OK
Project participants				
-	Are project participants and Party(ies) involved in the project listed?	The project participants and Party(ies) involved are listed	OK	OK
-	Is the data of the project participants presented in tabular format?	The data on project participants is presented in tabular format	OK	OK
-	Is contact information provided in Annex 1 of the PDD?	The contact information about project participants is provided in Annex 1 of the PDD	OK	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	The Host Party (Ukraine) is not a Party involved	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine	OK	OK
-	Region/State/Province etc.	Luhansk region	OK	OK
-	City/Town/Community etc.	Yasenovskiy urban village of town Rovenki	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	The project located in Luhansk Region. Its coordinates are 48°0.9' 38.90" N and 39°15' 18.37" E.	OK	OK
Technologies to be employed, or measures, operations or actions to be implemented by the project				
-	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all	The measures which will be implemented are described in full detail in section A.4.2 of the PDD.	CAR 03 CAR 04 CAR 05	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	relevant technical data and the implementation schedule described?	*Corrective Action Request 03* Please add simplified flow diagram which shows coal extraction process. *Corrective Action Request 04* Please indicate the types of equipment used. *Corrective Action Request 05* Please provide schedule for the project implementation and commissioning of the equipment installed. *Corrective Action Request 06* Please provide a brief description of the processing complex.	CAR 06	
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances				
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	Anthropogenic GHG emissions reductions are to be achieved by coal extraction from coal containing waste heaps in order to prevent CO_2eq emissions into the atmosphere which are occurring as the result of waste heaps spontaneous burning and also to obtain additional quantities of coal. Coal extracted from the waste heaps will substitute the coal from the mines and will be used mainly for energy production purposes at coal-fired power plants. Coal mining is a source of the fugitive emissions of methane, therefore, the project activity will reduce methane emissions by reducing the amount of coal required to be mined	OK	OK
-	Is it provided the estimation of emission reductions over the crediting period?	The estimation of emission reductions over the crediting period is provided by developer in the PDD	OK	OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?	The estimated annual reduction for period 2011-2026 is provided in tonnes CO_2eq	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
-	Are the data from questions above presented in tabular format?	The estimation of emission reductions is provided in tabular format in section A.4.3.1 of the PDD	OK	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period Indicated?	The length of the crediting period is 15 years and 0 months (180 months) *Clarification Request 01* Please clarify why 81 months were chosen as the length of the crediting period.	CL 01	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO_2 equivalent provided?	Estimated emission reduction is provided in tonnes of CO_2 equivalent	OK	OK
Project approvals by Parties				
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	*Corrective Action Request 07* Please provide the Letter of Endorsement in the section A.5 of the PDD.	CAR 07	OK
19	Does the PDD identify at least the host Party as a "Party involved"?	The PDD identifies Ukraine as a Host Party. See also CAR 08	OK	OK
19	Has the DFP of the host Party issued a written project approval?	*Corrective Action Request 08* Please provide the Letter of Approval of the Host Party.	CAR 08	OK
20	Are all the written project approvals by Parties involved unconditional?	See paragraph 19 above	OK	OK
Authorization of project participants by Parties involved				
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: − A written project approval by a Party involved, explicitly indicating the name of the legal entity? or − Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	After finishing the project determination report, the PDD with supporting documents and Determination Report will be presented to State Environmental Investment Agency of Ukraine for receiving the Letter of Approval that will authorize project participants. Also, see section 19 and section 20 of this protocol above.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Baseline setting				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? − JI specific approach − Approved CDM methodology approach	It is indicated in the PDD that JI specific approach is used for identifying the baseline, since among the methodologies approved by the CDM Executive Board there is none fully matching the proposed JI project. The baseline was indentified in accordance with "Guidance on criteria of baseline settings and monitoring" version 03. *Corrective Action Request 09* Please correct the current version of the applicable Guidance on Criteria for Baseline Setting and Monitoring.	CAR 09	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	The PDD provides a detailed theoretical description of five plausible future scenarios in a complete and transparent manner. First plausible future scenario was chosen as baseline.	OK	OK
23	Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? − Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors? (d) Taking into account of uncertainties and using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the	According to the information presented in the PDD, five plausible future scenarios are presented in a complete and transparent manner. First plausible future scenario was chosen as baseline. Identified possible scenarios were analysed taking into account key factors of national and/or sectoral policies that affect the implementation of the regarded scenarios. In section B.1 all baseline data and parameters are presented in a tabular format with detailed explanation of each. *Clarification Request 02* Please, provide more detailed description of the project "Waste heaps dismantling in Luhansk Region of Ukraine by "FPG "SKHID-ZAKHID" with the aim of decreasing the greenhouse gases emissions into the atmosphere"	CL 02	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	project or due to force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?			
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	As indicated in the PDD no CDM methodologies or methodological tools are used for baseline choice, justification and setting, because among the methodologies approved by the CDM Executive Board there is none fully matching the proposed JI project.	OK	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	*Corrective Action Request 10* Multi-project Carbon Emission Factor for fugitive methane emissions from coal mining, which is assessed by "National GHG inventory of Ukraine, period 1990-2008" for JI projects developed in Ukraine, is used for this project. Please change section B.1 of the PDD.	CAR 10	OK
Approved CDM methodology approach only				
26 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	Not applicable	Not applicable	Not applicable
26 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	Not applicable	Not applicable	Not applicable
26 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	Not applicable	Not applicable	Not applicable
26 (c)	Are all explanations, descriptions and analyses	Not applicable	Not	Not

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?		applicable	applicable
26 (d)	Is the baseline identified appropriately as a result?	Not applicable	Not applicable	Not applicable
Additionality				
JI specific approach only				
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used? (a) Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".	Consideration that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions were performed by project developer and provided in section B.2 of the PDD. *Clarification Request 03* Please specify applicable version of used "Tool for demonstration and assessment of additionality" *Corrective Action Request 11* Please bring the section B2 in accordance with the requirements of "Tool for the demonstration and assessment of additionality". *Corrective Action Request 12* Please shorten the description of "the investment climate of Ukraine" in section B2.	CL 03 CAR 11 CAR 12	OK
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	The PDD provides the justification of the applicability of the approach referred to in "Waste heaps dismantling with the aim of decreasing the greenhouse gases emissions into the atmosphere" Global Carbon B.V. project which was	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		successfully implemented.		
29 (b)	Are additionality proofs provided?	*Corrective Action Request 13* According to the PDD the most important barriers for project activity are financial and technological barriers. Please provide financial analysis of the project.	CAR 13	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	See section 29(b) of this protocol	OK	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	See section 29(b) of this protocol	OK	OK
Approved CDM methodology approach only				
31 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	Not applicable	Not applicable	Not applicable
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	Not applicable	Not applicable	Not applicable
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance with the selected methodology?	Not applicable	Not applicable	Not applicable
31 (d)	Are additionality proofs provided?	Not applicable	Not applicable	Not applicable
31 (e)	Is the additionality demonstrated appropriately as a result?	Not applicable	Not applicable	Not applicable
Project boundary (applicable except for JI LULUCF projects				
JI specific approach only				
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants?	The project boundary defined in the PDD encompasses all anthropogenic emissions by sources of GHGs under control of the project participants, reasonably attributable to the project and significant, such as GHG emissions from electricity consumed during project activity, coal combustion,	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(ii) Reasonably attributable to the project? (iii) Significant?	diesel fuel consumption.		
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	See section 32(a) of this protocol	OK	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	The delineation of the project boundary and sources included are described in the PDD by using figure 5 Emission sources located within the project boundary. *Clarification Request 04* Please explain the need to consider the source of emissions in Table 10 “Fugitive methane due to coal mining in the mines”.	CL 04	OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	In section B.3 of the PDD all gases and sources included are explicitly stated; the information presented in table B.3.1.	OK	OK
Approved CDM methodology approach only				
33	Is the project boundary defined in accordance with the approved CDM methodology?	Not applicable	Not applicable	Not applicable
Crediting period				
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	The PDD indicates that the starting date of the project is 19 of January 2009	OK	OK
34 (a)	Is the starting date after the beginning of 2000?	The starting date of the project is 19/01/2009, which is after the beginning of 2000	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	The expected operational lifetime of the project is 15 years and 0 months	OK	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	The PDD states the length of the crediting period in 6 years and 9 months (81 months) from 01/04/2011 till 31/03/2026 31/03/2026 *Clarification Request 05*	CL 05	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Please clarify why 01/04/2011 was chosen as the beginning of the crediting period.		
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	In the PDD there is no information that the starting date of the crediting period is before the date of the first emission reductions generated by the JI project.	OK	OK
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	The crediting period starts after the beginning of 2008 (01/04/2011) and doesn't extend beyond the operational lifetime of the project	OK	OK
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	The estimation of emission reductions due to the JI project is provided for the period 2011-2026. The values of emission reductions during the period 2011-2012 are presented in table 3 of the PDD. The values of emission reductions after 2012 for the period 2013-2026 are presented separately in table 4 of the PDD.	OK	OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	The PDD explicitly indicates that JI specific approach was used for monitoring plan in accordance with "Guidance on criteria for baseline setting and monitoring" version 03.	OK	OK
JI specific approach only				
36 (a)	Does the monitoring plan describe: − All relevant factors and key characteristics that will be monitored? − The period in which they will be monitored? − All decisive factors for the control and reporting of project performance?	The project developer uses JI specific approach for monitoring plan establishing in accordance with "Guidance on criteria for baseline settings and monitoring". Monitoring plan for project was elaborated by JI specific approach with application of methodology "Processing of waste heaps at Monolith-Ukraine".	OK	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the	The monitoring plan describes relevant indicators, constants and variables such as amount of produced coal, amount of consumed electricity, emission factors of Ukrainian national	CAR 14	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions or enhancements of net removals to be monitored?	grid, for fugitive methane emissions of coal mining etc. *Corrective Action Request 14* Constant density of methane was used for emission reductions monitoring. Please indicate the source of this value in the section D of the PDD.		
36 (b)	If default values are used: − Are accuracy and reasonableness carefully balanced in their selection? − Do the default values originate from recognized sources? − Are the default values supported by statistical analyses providing reasonable confidence levels? − Are the default values presented in a transparent manner?	Global warming potential of methane, net calorific values of diesel fuel and coal, oxidation factors, carbon factor of diesel fuel and coal are used as default values in the monitoring plan. The sources of these values are clarified in table 11	OK	OK
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	The monitoring plan indicates how the values are to be selected and justified.	OK	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these values are taken? − Is the conservativeness of the values provided justified?	The monitoring plan clearly indicates references from which these values are taken.	OK	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	Corrective Action Request 15 Please specify the procedures to be followed if expected monitoring data are unavailable.	CAR 15	OK
36 (b) (iv)	Are International System Unit (SI units) used?	International System Units are used	OK	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals	The monitoring plan doesn't note any parameters, coefficients, variables, etc that are to be obtained through monitoring in order to calculate baseline emissions.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	but are obtained through monitoring?			
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	According to the monitoring plan and the PDD, the use of parameters and variables are consistent between the baseline and monitoring plan.	OK	OK
36 (c)	Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	The monitoring plan is established taking into account the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring".	OK	OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored throughout the crediting period?	See the PDD section D.1. The data and parameters that are monitored throughout the crediting period are clearly indicated in the PDD (section D.1). *Corrective Action Request 16* Please add Emission Factor to the table D1.1.1.	CAR 16	OK
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	The section D.1 of the PDD describes the methods employed for data monitoring including its frequency and recording	OK	OK
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage,	All algorithms and formulae used for the estimation of baseline and project emissions are indicated and explained in the PDD.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	as appropriate?			
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	The underlying rationale for the formulae is presented	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	All variables and equation formats are consistent and used in appropriate way	OK	OK
36 (f) (iii)	Are all equations numbered?	Equations needed for calculations described in section B and section D of the PDD. All equations are numbered.	OK	OK
36 (f) (iv)	Are all variables, with units indicated defined?	All variables with units indicated are defined	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	The conservativeness of the procedures is justified	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	Uncertainty level in key parameters identified as low in table D.2 “Quality control and quality assurance procedures undertaken for data monitored”.	OK	OK
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	There is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions of the baseline scenario	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	Used algorithms and formulae are explained	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	It is justified in the PDD that the technical procedures applied at “FPG “SKHID-ZAKHID” LLC are consistent with standard technical procedures in the relevant sector	OK	OK
36 (f) (vii)	Are references provided as necessary?	References for documents required for ERUs calculation are provided	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Key assumptions are presented in a transparent manner and are explained in the PDD	OK	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	In the PDD there is no information about significant uncertainty level of assumptions and procedures. All assumptions and procedures are employed with a high level of confidence.	OK	OK
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at	In the PDD project developer described the uncertainty level of key parameters. Uncertainty level of concerned data was	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	assessed as low. Measuring devices for monitoring of key parameters are calibrated/verified in compliance with the state regulation, "FPG "SKHID-ZAKHID" procedures and approved methodologies in order to assure quality control of monitoring data.		
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	No national or international monitoring standards are used for monitoring of the JI project implementation.	OK	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	Not applicable for given JI project.	OK	OK
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	The quality assurance and control procedures, including information about calibration and how monitoring data are to be recorded and collected are provided for in the monitoring plan, and described in sections D.2 and D.3 of the PDD. *Corrective Action Request 17* Please provide Calibration plan of JI project measurement equipment.	CAR 17	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	Responsible departments and persons to support monitoring activities of the JI project are clearly identified in the monitoring plan.	OK	OK
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	The monitoring will be performed in accordance to the plant policies and existing good practices, considering all necessary requirements to ensure accurate monitoring of the project activity	OK	OK
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that	Presented in the PDD monitoring plan provides a complete compilation of the data that need to be collected for its	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?	application, including data that are measured or sampled and data that are collected from other sources. Data connected with baseline scenario and emission reductions calculation are stated in tabular format in section D of the PDD.		
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	The monitoring plan indicates that the data monitored and required for emission reductions calculation will be kept for two years after the last transfer of ERUs	OK	OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	There is no selected elements or combinations of approved CDM methodologies	OK	OK
Approved CDM methodology approach only				
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	Not applicable	Not applicable	Not applicable
38 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	Not applicable	Not applicable	Not applicable
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	Not applicable	Not applicable	Not applicable
38 (c)	Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with the referenced approved CDM	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	methodology?			
38 (d)	Is the monitoring plan established appropriately as a result?	Not applicable	Not applicable	Not applicable
Applicable to both JI specific approach and approved CDM methodology approach				
39	If the monitoring plan indicates overlapping monitoring periods during the crediting period: (a) Is the underlying project composed of clearly identifiable components for which emission reductions or enhancements of removals can be calculated independently? (b) Can monitoring be performed independently for each of these components (i.e. the data/parameters monitored for one component are not dependent on/effect data/parameters to be monitored for another component)? (c) Does the monitoring plan ensure that monitoring is performed for all components and that in these cases all the requirements of the JI guidelines and further guidance by the JISC regarding monitoring are met? (d) Does the monitoring plan explicitly provide for overlapping monitoring periods of clearly defined project components, justify its need and state how the conditions mentioned in (a)-(c) are met?	The monitoring plan doesn't indicate overlapping monitoring periods during the crediting period	OK	OK
Leakage				
JI specific approach only				
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains which sources of leakage are to be calculated, and which can be neglected.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	According to the information and justification stated in the PDD, an ex ante estimation of the leakage is provided accurately. Please, refer to section B.3 of the PDD.	OK	OK
Approved CDM methodology approach only				
41	Are the leakage and the procedure for its estimation defined in accordance with the approved CDM methodology?	Not applicable	Not applicable	Not applicable
Estimation of emission reductions or enhancements of net removals				
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario (b) Direct assessment of emission reductions	The PDD indicates that the approach implying the assessment of emissions in the baseline scenario and in the project scenario was chosen	OK	OK
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	The PDD provides ex ante estimates for project and baseline scenario and leakages. Ex ante estimates of emission reductions are adjusted by leakage.	OK	OK
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	Not applicable	Not applicable	Not applicable
45	For both approaches in 42	The estimation of baseline and project emissions, leakage	CAR 18	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(a) Are the estimates in 43 or 44 given: (i) On a periodic basis? (ii) At least from the beginning until the end of the crediting period? (iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? (b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD? (c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice? (f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44 consistent	and emission reductions are made on a periodic basis from beginning to the end of the crediting period for each year. Estimations of emission reductions are carried out for CO_2 as greenhouse gas. Calculations are regarded in t CO_2 equivalent. Formulae used for calculating the estimates stated in section D and section E are consistent throughout the PDD. Data sources used for calculating the estimates are clearly identified. Key factors influencing the baseline emissions or the activity level of the project as well as risks associated with the project were taken into account. Conservative assumptions are taken into account while estimating emission reductions. Tables with calculation results of CO_2 emission reductions are provided in the PDD. *Corrective Action Request 18* Please provide the annual average value of CO_2 emission reductions in table E-6.		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	throughout the PDD? (h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?			
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation?	The calculation of baseline emissions is to be performed ex post. Ex ante calculation of emissions are provided in the PDD. All estimated values are presented in the section E of the PDD and Excel spreadsheets.	OK	
Approved CDM methodology approach only				
47 (a)	Is the estimation of emission reductions or enhancements of net removals made in accordance with the approved CDM methodology?	Not applicable	Not applicable	Not applicable
47 (b)	Is the estimation of emission reductions or enhancements of net removals presented in the PDD: − On a periodic basis? − At least from the beginning until the end of the crediting period? − On a source-by-source/sink-by-sink basis? − For each GHG? − In tones of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? − Are the formula used for calculating the estimates consistent throughout the PDD? − Are the estimates consistent throughout the PDD?	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?			
Environmental impacts				
48 (a)	Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	The PDD provides detailed description on environmental impacts in the section F.1. Transboundary impacts are not observed for this project. The full environmental analysis in accordance with the Ukrainian legislation is provided by the local developer SPE "Firma Pryroda". *Corrective Action Request 19* Please specify the period for which the environmental impacts was carried out, their number and date.	CAR 19	OK
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	The PDD provides conclusion and references to supporting documentation of an environmental impact assessment in accordance with the procedures required by Ukrainian legislation	OK	OK
Environmental impacts				
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received, if any? (b) The nature of the comments?	The Host Party doesn't require stakeholder consultation process for the JI project. No stakeholders comments connected with JI project were obtained. Also, stakeholder's comments will be collected during the determination procedure	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(c) A description on whether and how the comments have been addressed?			
Determination regarding small-scale projects (additional elements for assessment)				
Applicable to bundled JI SSC projects only				
Applicable to all JI SSC projects				
Determination regarding land use, land-use change and forestry projects (additional/alternative elements for assessment)				
Determination regarding programmes of activities (additional/alternative elements for assessment)				

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in table 1	Summary of project participant response	Determination team conclusion
Corrective Action Request 01 Please correct the date of the current version of used PDD template.	-	The date of the current version of used PDD template has been corrected. Please see PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 02 Please briefly summarize the chosen baseline scenario in section A.2 of the PDD.	-	The summary of the baseline scenario has been presented in Section A.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 03 Please add simplified flow diagram which shows coal extraction process.	-	The simplified flow diagram has been presented in Figure 4. Please see Section A.4.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 04 Please indicate the types of equipment used.	-	The list of key equipment used for coal beneficiation at the plant has been presented in Section A.4.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.

Corrective Action Request 05 Please provide schedule for the project implementation and commissioning of the equipment installed.	-	The schedule of the project implementation has been provided in Section A.4.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 06 Please provide a brief description of the processing complex.		Generally, the coal beneficiation plant is a four-floored construction which includes such equipment as separators, thickeners, hydrocyclones, cribbles, bend conveyors, pumps, feeders, sieves, centrifuges, tanks and sump basins. The equipment is interconnected by wiring and pipeline. The beneficiation process is controlled from the control room. Please see Section A.4.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 07 Please provide the Letter of Endorsement in the section A.5 of the PDD.	19	Letter of Approval with the number 2011JI44 was issued by the DFP of the Netherlands on 20 January 2012. The evidence has been provided to the determinator in Supporting document "SD4_Dutch_LOA_Skhid-Zakhid". The copy of LoE has been sent to the AIE with Supporting document "SD1_LoE_Skhid-Zakhid.pdf"	Issue is closed.
Corrective Action Request 08 Please provide the Letter of Approval of the Host Party.	19	After AIE has completed the Determination Report, the PDD and the Determination Report will be presented to the State Environmental Investment Agency of Ukraine to obtain a Letter of Approval from Ukraine.	Issue is closed.
Corrective Action Request 09 Please correct the current version of the applicable Guidance on Criteria for Baseline Setting and Monitoring.	22	The version of the applied Guidance on Criteria for Baseline Setting and Monitoring has been corrected. Please see Section B.1. of PDD version 2.0 from 11 January, 2012	Issue is closed.

Corrective Action Request 10 Multi-project Carbon Emission Factor for fugitive methane emissions from coal mining, which is assessed by "National GHG inventory of Ukraine, period 1990-2008" for JI projects developed in Ukraine, is used for this project. Please change section B.1 of the PDD.	25	The following amendments have been made in Section B.1. of PDD version 2.0 from 11 January, 2012: 1. The baseline scenario has been established according to the criteria outlined in the JISC Guidance on a project specific basis and using the multi-project carbon emission factor for fugitive methane emissions from coal mining 2. The multi-project carbon emission factor for fugitive methane emissions from coal mining has been referenced.	Issue is closed.
Corrective Action Request 11 Please bring the section B2 in accordance with the requirements of "Tool for the demonstration and assessment of additionality".	28	The additionality of the project has been assessed through option "b)" in Paragraph 44 of Guidance on criteria for baseline setting and monitoring version 03. As the CDM Tool "Tool for the demonstration and assessment of additionality" has not been applied in this project, all references to it have been removed from the PDD. Relevant amendments have been made in Section B.1. and B.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 12 Please shorten the description of "the investment climate of Ukraine" in section B2..	28	The Section B.2. of PDD version 2.0 from 11 January, 2012 has been revised and amended. The step 3 in Section B.2. is performed to provide justification on why the determination for a comparable project is relevant for the project at hand. The description of investment situation in Ukraine is an integral part of the analysis.	Issue is closed.

Corrective Action Request 13 According to the PDD the most important barriers for project activity are financial and technological barriers. Please provide financial analysis of the project.	29 (b)	For this project, financial analysis has not been performed because additionality of the project has been assesses by comparing to the similar project. The additionality of the project has been assessed through option "b)" in Paragraph 44 of Guidance on criteria for baseline setting and monitoring version 03. The applied approach provides traceable and transparent information showing that the same approach for additionality demonstration has already been taken in cases for which determination is deemed final and which can be regarded as comparable. Please see Section B.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 14 Constant density of methane was used for emission reductions monitoring. Please indicate the source of this value in the section D of the PDD.	36 (b)	2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2: Energy, Chapter 4: Fugitive Emissions, Page 4.12. Measurement units have been converted from Gg·m-3 to t/m^3. IPCC Standard (at room temperature 20˚C and 1 ATM) The description has been added to Table 11, Section D.1. Please see Section B.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 15 Please specify the procedures to be followed if expected monitoring data are unavailable.	36 (b) (iii)	The procedures to be followed if expected monitoring data are unavailable have been added to Section D.2. Please see Section D.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.

Corrective Action Request 16 Please add Emission Factor to the table D1.1.1.	36 (d)	CO_2 emission factor for electricity consumed by the project activity in year *y* has been presented in Table D.1.1.1. Please see Section D.1.1. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Corrective Action Request 17 Please provide Calibration plan of JI project measurement equipment.	36 (i)	The manuals, calibration certificates and calibration plan for measurement equipment used in the JI project have been sent to the AIE in Supporting document "SD2_Measurement equipment.rar"	Issue is closed.
Corrective Action Request 18 Please provide the annual average value of CO_2 emission reductions in table E-6.	45	The tables in Section E.6. are presented in line with Guidance for users of the JI PDD form Version 04.	Issue is closed.
Corrective Action Request 19 Please specify the period for which the environmental impacts was carried out, their number and date.	48 (a)	One full scope EIA in accordance with the Ukrainian legislation has been performed for the proposed project on 15 March, 2011 by SPE "Firma Pryroda" which is licensed for development of EIA documents by Luhansk Regional State Administration of Town Building and Architecture. The clarification has been added to Section E of PDD version 2.0 from 11 January, 2012 The relevant license has been provided to the AIE with Supporting document "SD3_License.rar"	Issue is closed.

Clarification Request 01 Please clarify why 81 months were chosen as the length of the crediting period.	-	The operational lifetime of the project is taken as 15 years or 180 months. According to Glossary of Joint Implementation terms, Version 03, the operational lifetime of the equipment is "the period during which the project is in operation. The crediting period shall not extend beyond the operational lifetime of the project". Regarding the specifics of this particular project there are two crucial factors for the project operation: availability of rock for coal enrichment and lifetime of the equipment. First one cannot be precisely determined at current stage, because there are plans for purchasing new waste heaps, so it is assumed that this factor is not limiting operational lifetime of the project. On the other hand, it's difficult to identify the lifetime of the equipment because the project activity is executed at system of interconnected pieces of equipment, none of which can be considered as most important. Each of the pieces in case of break down can be replaced, and the system will continue its operation. To find out how long operational lifetime of the entire system can be, it was decided to use the approach adopted by Ukrainian legislation for determining depreciation period of the "structure", which in accordance with article 145 of Ukrainian Tax Code is 15 years.	Issue is closed.
Clarification Request 02 Please provide more detailed description of the project "Waste heaps dismantling in Luhansk Region of Ukraine by "FPG "SKHID-ZAKHID" with the aim of decreasing the greenhouse gases emissions into the atmosphere"	23	More detailed description of the project including applied equipment has been provided in Section A.4.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.

Clarification Request 03 Please specify applicable version of used "Tool for demonstration and assessment of additionality"	28	The additionality of the project has been assessed through option "b)" in Paragraph 44 of Guidance on criteria for baseline setting and monitoring version 03. As the CDM Tool "Tool for the demonstration and assessment of additionality" has not been applied in this project, all references to it have been removed from the PDD. Relevant amendments have been made in Section B.1. and B.2. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Clarification Request 04 Please explain the need to consider the source of emissions in Table 10 "Fugitive methane due to coal mining in the mines".	32 (c)	The leakages have been removed from Table 10 because they are beyond the project boundaries and are considered further in Section B.3. Please see Section B.3. of PDD version 2.0 from 11 January, 2012	Issue is closed.
Clarification Request 05 Please clarify why 01/04/2011 was chosen as the beginning of the crediting period.		The put-into-operation order has been issued on 30 March, 2011. Start of the crediting period was chosen as 1 April, 2011, the date when the plant started its operation.	Issue is closed.
Clarification Request 06 Project scenario envisages that the waste heaps extracted coal will substitute mine coal for energy generation. No further evidence that this will take place. Used model does not take it into account.	-	The project assumes that the coal produced by the project activity shall be used for energy purpose as well as the other coal of similar characteristics produced by the coal mining sector of Ukraine. This is justified by the fact that the project extracts only anthracite coal, which is not suitable for coke production and thus is used for thermal energy and power generation. This final use of the coal occurs outside of the project boundary and is the same for both project and baseline scenario. The coal produced by the	Issue is closed.

		project is supplied to the market of energy coal of Ukraine. Energy coal market is demand driven as it is not feasible to produce coal without demand for it. Coal is a commodity that can be freely transported to the source of demand and coal of identical quality can substitute any other coal easily. The project activity cannot influence demand for coal on the market and supplies coal extracted from the waste heaps. In the baseline scenario demand for coal will stay the same and will be met by the traditional source – underground mines of the region. Therefore, the coal supplied by the project in the project scenario will have to substitute the coal mined in the baseline scenario. It is also important to mention that Ukraine is a net exporter of energy coal so the coal produced by the project activity will substitute domestically mined coal (in 2010 energy coal production was 40.3 Mt, import was 3 Mt and export was 6.1 Mt - http://www.uaenergy.com.ua/c225758200614cc9/0/d465824d78686a04c225787000542600). Therefore, it can be reasonably assumed that the coal supplied by the project activity will substitute the coal produced in the baseline for any final use and this final use will occur within the territory of Ukraine.	
Clarification Request 07 CH_4 emission factor is chosen for the mine extraction. Open pit coal extraction option is not regarded; justification of the chosen emission factor is not provided either.	-	The emission factor for fugitive methane emissions from the coal mining has been selected based on the structure of the Ukrainian coal mining sector and characteristics of the coal produced by the project activity. The source of the emission factor value provides separate	Issue is closed.

		emission factors for underground mining and open cast mining. At present the majority of coal produced in Ukraine comes from underground mines. There are currently only three active surface mines in Ukraine and all of them are located in the western part of the Donetsk Basin. These surface mines produce peat, lignite, and sub-bituminous coals that have low methane content. [p.3 of Triplett J., Filippov A., Paisarenko A. Inventory of methane emissions from coal mines in Ukraine: 1990-2001. Partnership for Energy and Environmental Reform, 2002.] Annual amount of coal produced by an open cast mining method constitutes below 1% of the total amount of coal produced in Ukraine. [p. 90 of National Inventory Report of Ukraine 1990-2009]. The coal produced by the project activity comes from the matter excavated from the underground mines and therefore has different characteristics than the coal produced by the open-cast mines. Summing up the above, it is reasonable to assume that the emission factor for fugitive methane emissions should be selected as the one provided for underground coal mining.	