DETERMINATION REPORT
PRJSC MODIFIED FATS FACTORY

DETERMINATION OF THE SUNFLOWER HUSK UTILIZATION FOR STEAM AND ELECTRICITY GENERATION AT THE OIL-EXTRACTION FACTORY CJSC MODIFIED FATS FACTORY

REPORT NO. UKRAINE-DET/0192/2010
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BUREAU VERITAS CERTIFICATION

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Client: PrJSC Modified Fats Factory	Client ref.: Sergiy Tymchenko

Summary:
Bureau Veritas Certification has made the determination of the "Sunflower Husk Utilization for Steam and Electricity Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" project of PrJSC Modified Fats Factory located in the city of Kirovohrad in Kirovohrad Oblast, 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 Actions 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 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.: UKRAINE-det/0192/2010	Subject Group: JI	Indexing terms		
Project title: Sunflower Husk Utilization for Steam and Electricity Generation at the Oil-Extraction Factory CJSC Modified Fats Factory				
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Table of Contents *Page*

1 INTRODUCTION

PrJSC Modified Fats Factory (since 02/06/2011, the enterprise registration name has been changed from "CJSC Modified Fats Factory" to "PrJSC Modified Fats Factory" in accordance with Excerpt of United State Register of Legal Entities and Individual entrepreneurs of Ukraine as of 02/06/2011) has commissioned Bureau Veritas Certification to determine its JI project "Sunflower Husk Utilization for Steam and Electricity Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" (hereafter called "the project") in the city of Kirovohrad in Kirovohrad Oblast, 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 emissions reductions 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:

Ivan Sokolov
Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Iuliia Pylnova
Bureau Veritas Certification Team Member, Climate Change Lead Verifier

Kateryna Zinevych

Bureau Veritas Certification Team Member, Climate Change Lead Verifier

Denis Pishchalov

Bureau Veritas Certification Team Member, Financial Specialist

This determination report was reviewed by:

Leonid Yaskin

Bureau Veritas Certification Internal Technical Reviewer

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

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 GreenStream Network (the PDD developer) 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, GreenStream Network revised the PDD and resubmitted it on 25/11/2011.

The determination findings presented in this report relate to the project as described in the PDD versions 02, 04, and 04.1.

2.2 Follow-up Interviews

On 21/03/2011 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 CJSC Modified Fats Factory and GreenStream Network were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1   Interview topics

Interviewed organization	Interview topics
CJSC Modified Fats Factory	➤ 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.
GreenStream Network	➤ 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 owner, PrJSC Modified Fats Factory, is one of the biggest producers of fat products in Ukraine. The PrJSC Modified Fats Plant (MFP) was commissioned in 2005 and produces mainly fat and margarine production. In 2007, the project owner decided to extend its product line and construct the Oil Extraction Plant (OEP). OEP is designed to extract vegetable oil from sunflower seed and produce types of fat product. MFP and OEP are located adjacently and are both under the OJSC Creative Group, but belong to two separated operational entities. After the decision of construction of OEP, the project developer started looking for a

solution to meet the energy demand of OEP and partly displace the energy consumption of MFP.

Prior to the project activity, the steam was supplied by natural gas boilers installed at MFP: two existing natural gas boilers are the type of THS-50 and another one is Boiler Avogadro. In the perspective of business-as-usual, the solution of energy supply for OEP will be the installation of new natural gas boiler. Meanwhile, the husk of sunflower seed will be transported to the Kirovohrad municipal landfill site 20.5 km far away and disposed there.

Thus, the brief description of the baseline scenario is as follows: the existing natural gas boilers will be operated continuously. Meanwhile, new natural gas boilers will be installed to produce the heat needed by the production extension. The husks will be dumped or left to decay mainly under clearly anaerobic conditions.

Since the initiation of OEP, the husk has been considered as a renewable source to meet the energy demand of both MFP and OEP. The project activity will install two husk boilers at PrJSC MFP in Kirovograd, Ukraine. The husk generated by OEP will be combusted in these husk boilers with the purpose to generate carbon-neutral steam. The project activity will combust 27,950 tonnes of husk annual and generate steam. However, during the crediting period of the project, the existing natural gas boilers will serve as backup in case of steam supply shortage. The working performance of these natural gas boilers will be recorded as the baseline till their retirement or closure of lifetime.

A steam turbine for electricity generation using steam from MFP boilers is expected to be installed only after 2012. Therefore, emissions reductions related to electricity generation are not taken into consideration.

The project is under the UKEEP (Energy Efficiency Programme for Banks in Ukraine), which is a framework facility constructed by EBRD (European Bank for Reconstruction and Development). UKEEP finances the private sector companies for industrial energy efficiency and renewable energy projects and encourages the financed project commercialize the reduced GHG emission. The carbon revenue has been pre-considered as an additional profit to make the project activity attractive in finance perspective. The project owner management meeting was held on 5 July 2007 where the positive decision was made regarding the JI project implementation and carbon revenue from JI. Through the MCCF (Multilateral Carbon Credit Fund), established by EBRD, documents have been developed for the commercialization of the Emission Reduction Units under the JI framework. The PIN of the project was submitted to the National Environmental Investment Agency of Ukraine in May 2009. The Letter of Endorsement (No. 757/23/7) of the project activity was issued by the National Environmental Investment Agency of Ukraine at July 3, 2009. The Letter of Approval from Ukraine government is expected be issued by

State Environmental Investments Agency of Ukraine after the submission of project PDD and Determination report.

Setting the two husk boilers into testing operation (according to the Order #248) began since September 24, 2009 which is defined to be the starting date of crediting period.

The project activity was initially designed to install two husk boilers and one electricity steam generator. However, during the project implementation the installation of the electricity steam turbine was not realized because of the delay of finance raising. The PDD is developed basing on the condition of the investment and operation of two husk boilers for the thermal energy generation.

The identified areas of concern as to Project description, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 01, CL 01, CL 02, CL 03, CAR 03, CAR 04, CAR 13, CAR 41, and CAR 47).

Brief description of the clarification and corrective action requests are stated below.

CAR 01. The description of the baseline scenario must be added to the section A.2. of the PDD as per *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04.

CL 01. Some inconsistency was revealed in the PDD. It is stated in the section A.2 that "PrJSC Modified Fats Plant (MFP) was commissioned in 2005". However, this statement contradicts the information below: 'Two existing natural gas boilers are the type of THS-50 working since Dec 2001...". Please, provide corresponding clarification.

CL 02. Please, provide any evidence that the carbon revenue has been pre-considered as an additional profit to make the project activity attractive in finance perspective.

CL 03. Please, provide documented evidence to confirm the project starting date (June 20, 2008) and the starting date of the crediting period (September 26, 2009).

CAR 03. The information concerning the implementation schedule for the measures to be implemented is missing in the section A.4.3. Please, add the appropriate information as per *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04.

CAR 04. The reference to the Section C is indicated in the section A.4.4 of the PDD: "More details are indicated in Section C". However, the respective information is absent in the Section C. Please, clarify or provide more accurate reference.

CAR 13. Please, provide the interpretation of the abbreviation "SWDS" in the PDD.

CAR 41. Annex B is referred to in the PDD (page 42). However, there is no such Annex in the PDD. Please, correct.

CAR 47. Please, provide contact data of Mr. Davydov.

All the issues mentioned above are closed based on the project participants response.

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 47 Corrective Action Requests and 10 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

The Letter of Endorsement (No. 757/23/7) of the project activity was issued by the National Environmental Investment Agency of Ukraine at July 3, 2009. The Letter of Approval from Ukraine government is expected be issued by National Environmental Investments Agency of Ukraine after the submission of project PDD and Determination report.

The identified areas of concern as to Project approvals by Parties involved, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 06).
Brief description of the corrective action request is stated below.
CAR 06. The project has no approval of the host Party and the sponsor Parties. Please provide Letters of Approval.

Now the issue mentioned above remains open; it will be closed after the determination report finalizing.

4.2 Authorization of project participants by Parties involved (21)

The participation for each of the legal entities listed as project participants in the PDD will be authorized by a Party involved, which is also listed in the PDD, through a written project approval by a Party involved, explicitly stating the name of the legal entity.

The identified areas of concern as to Authorization of project participants by Parties involved, project participants response and BV Certification's

conclusion are described in Appendix A (refer to CAR 02, CAR 24, CAR 38).

Brief description of the corrective actions requests are stated below.

CAR 02. Please, prepare the Annex 1 of the PDD in accordance with *Joint implementation project design document form for small-scale projects*, version 01.1 (all obligatory rows must be presented in the table).

CAR 24. Please, indicate if the person/entity mentioned in the section B.4. of the PDD is also a project participant listed in annex 1 as per *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04.

CAR 38. Please, indicate if the person/entity mentioned in the section D.5. of the PDD is also a project participant listed in annex 1 as per *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04.

All the issues mentioned above are closed based on the project participants response.

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 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 for heat generation and for the treatment of husks.

- For heat generation, the realistic and credible alternatives may include:

H1: Heat generation will be supplied by biomass residue/husk boiler, which is not undertaken as a JI project activity;

This is the project scenario without the help of JI.

H2: The continuation of heat generation in existing natural gas boilers. The new energy demand caused by production extension will be satisfied by the installation of new natural gas boiler;

This is the continuation of the baseline scenario.

H3: The existing natural gas boilers will be retrofitted to meet the demand of heat.

The retrofitting of existing natural gas boilers can not meet the demand of heat of the proposed project.

H4: The installation of new plants at the project site different from those installed under the project activity. The new plants shall utilize the fossil fuel energy rather than natural gas;

Considering that natural gas is one of the most common and appropriate energy sources, it is not realistic to install another new plant onsite which consumes other fossil fuel rather than natural gas.

H5: The generation of heat in specific off-site plants;

Due the reason of the remote location, it is not realistic to transfer heat from other specific off-site plants.

H6: The production of heat from district heating;

The project is located in the remote industrial park which keeps a distance of approximately 2 km to the closest residence community. The connection of district heating is not realistic because 1) the cost connection pipe will cause extra investment, 2) the connection will be requested to obtain the governmental approval and a license.

- For the treatment of husks (biomass residue), the realistic and credible alternatives may include:

B1: The husks are dumped or left to decay mainly under aerobic conditions.
With respect to "On protection of atmospheric air" (21/06/2001, #2556-III), the aerobical disposal of husks, i.e. decaying on fields, is forbidden, because the husks on fields will be blown away by wind, which will cause pollution and impact local ecology in a negative manner. The uncontrolled burning of husk is forbidden too. Therefore, the alternative B1 is not credible.
B2: The husks are dumped or left in nearby landfill site under clearly anaerobic conditions;
This is the continuation of the baseline scenario.
B3: The husks are burnt in an uncontrolled manner without utilizing it for energy purposes;
For the same reason with alternative B1, the alternative B3 is not credible.
B4: The husks are used for power and/or heat generation at the project site in new and/or existing plants which is not undertaken as a JI project activity;
This is the project scenario without the help of JI.
B5: The husks are used for power and/or heat generation at other sites in new and/or existing plants;
Husk is not welcomed in the indoor heating system, because of its transportation and packaging cost, the low NCV of husk and ash management.
B6: The husks are used for other energy purposes, such as the generation of biofuels;
The technology to produce biofuels with husk is not sound because of the high ash content in husk. In addition, considering the transportation cost, it is not a realistic alternative to utilize the husk for the generation of biofuel. The project owner will not deconcentrate its focus on the food

industry. It is not realistic to sell the husk in a liquid market because of its transportation and packaging cost, the low NCV of husk and ash management.

B7: The husks are used for non-energy purpose, e.g, as fertilizer or as feedstock in processes;

Husk is not a proper raw material to produce bio-fertilizer. The bio-fertilizer requires balanced nutritional materials, i.e. nitrogen, potassic materials, which husk does not have. The cost of these additives will cause B7 unrealistic. In addition, the project owner will not deconcentrate its focus on the food industry. It is not realistic to sell the husk in a liquid market because of its transportation and packaging cost, the low NCV of husk and ash management.

B8: The husks are purchased from a market or retailers, or the primary source of the biomass residues and/or their fate in the absence of the project activity can not be clearly identified.

There is no such market or retailers where the project developer can purchase the husk. Besides, it can not be a realistic alternative because of the high transportation cost.

The scenario with combined baseline options H2 and B2 (situation envisaged by the scenario is following: the existing natural gas boilers will be operated continuously, meanwhile, new natural gas boilers will be installed to produce the heat needed by the production extension) is chosen as the most plausible baseline scenario in absence of the project activity.

The husks will be dumped or left to decay mainly under clearly anaerobic conditions.

In brief, the baseline emission consists of the baseline emission from electricity generation, the baseline emission from the consumption of fossil fuel for process heat, the baseline emission from the uncertain electricity generation, and the baseline emission due to disposal of biomass residues. Below formulae presents these four baseline emission sources.

$$BE_y = EL_{BL,GR,y} * EF_{EG,GR,y} + \sum FF_{BL,HG,y,f} * EF_{FF,y,f} + EL_{BL,FF/GR,y} * * \min (EF_{EG,GR,y}; EF_{EG,FF,y}) + BE_{BR,y}$$

Where

BE_y - Baseline emission in year y (tCO_2)

$EL_{BL,GR,y}$ - Baseline minimum electricity generation in the grid in year y (MWh)

$EF_{EG,GR,y}$ - Grid emission factor in year y (tCO_2/MWh)

$FF_{BL,HG,y,f}$ - Baseline fossil fuel demand for process heat in year y (kcal)

$EF_{FF,y,f}$ - CO_2 emission factor for fossil fuel type in year y (kg CO_2 / kcal)

$EL_{BL,FF/GR,y}$ - Baseline uncertain electricity generation in the grid or on-site in year y (MWh)

$EF_{EG,GR,y}$ - CO_2 emission factor for electricity generation with fossil fuels at the project site in the baseline in year y (tCO_2/MWh)

$BE_{BR,y}$ - Baseline emission due to disposal of biomass residues in year y (tCO_2e)

y - Year of the crediting period

f - Fossil fuel type

(b) Taking into account relevant national and 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 as appropriate.

The identified areas of concern as to Baseline setting, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 07, CL 04, CAR 12, CAR 14, CL 05, CAR 18, CAR 19, CAR 20, CAR 21, CAR 22, CL 06, CAR 28, and CAR 46).

Brief description of the clarifications and corrective actions requests are stated below.

CAR 07. The use of the most recent valid version of approved CDM baseline and monitoring methodology is encouraged as per the *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04 (in the case if elements or combinations of approved CDM baseline and monitoring methodologies are applied). Please, provide in the PDD an accurate reference to the CDM methodology used.

CL 04. Two different CDM methodologies were mentioned in the section B.1. to identify the baseline: ACM0006 and ACM0012. Please, clarify.

CAR 12. The explanation of the parameter $EF_{FF,y,y}$ indicated in formula (2) of the PDD is missing. Please, provide appropriate description in the section B.

CAR 14. Two different parameters ("Conservativeness factor" and "Fraction of methane captured at the SWDS and flared, combusted or used in another manner") are denoted with the same symbol "f" in the PDD and Excel file. Please, correct.

CL 05. A number of alternatives were considered to establish baseline. However, H3 alternative ("The continuation of heat supplied from existing natural gas boilers. The existing boilers would operate at the same conditions as those observed in the most recent period.") apparently is not realistic and credible one, as the capacity of the existing boilers is not enough to supply the needed amount of heat to MFP and OEP. Please, clarify.

CAR 18. Please, provide the justification of the choice of data for the parameters "Model correction factor to account for model uncertainties"

and "Fraction of degradable organic carbon that can decompose" or provide clear and accurate reference.

CAR 19. It is stated in section B of the PDD that the value of Methane correction factor equals to 1 can be applied because the solid waste disposal sites identified as the "anaerobic managed solid waste disposal sites". At the same time, landfill site "is ranked as "unmanaged solid waste disposal site" (see Annex 2). Please, correct.

CAR 20. The default value 20 for husk is applied for fraction of degradable organic carbon in the waste type *j*. Please, provide clear and accurate reference and indicate if this value was used for wet or dry waste.

CAR 21. The justification of the default value 0.2 for decay rate for the waste type *j* is absent in the Annex 2 (referred to in the PDD, section B.1). Please, provide appropriate justification and traceable reference.

CAR 22. PDD states that ex-ante value=0 is used for the parameter "Fraction of methane in the SWDS gas". However, the value 0.5 is used in the Excel file. Please, provide appropriate clarification.

CAR 28. Two key parameters used to establish the baseline are missing in the section D.2: E_f - Baseline indicator of the natural gas consumption of per tone of steam; $FF_{BL,HG,y,f}$ - Baseline fossil fuel demand for process heat in year *y*. Please, make corresponding corrections.

CAR 46. Please provide a detailed theoretical description of the baseline in a complete and transparent manner. This is the requirement of Guidelines for Users of JI PDD Form for SSC projects.

All the issues mentioned above are closed based on the project participants response.

4.4 Additionality (27-31)

Traceable and transparent information showing that 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 reductions of anthropogenic emissions by sources of GHGs was provided.

The PDD provides a justification of the applicability of the approach with a clear and transparent description, as per item 3.3 above. Additionality proofs are provided.

The alternative scenarios to the project activity were identified and proven to be in compliance with mandatory legislation. The credible barriers, such as investment (the immobilization of investment depends on the expected return of the investment on the project activity) and technological barriers, hinder project scenario implementation without additional revenue from Kyoto benefits. No barriers exist to the baseline

alternative. The proposed joint implementation project is not common practice.

Based on the analysis provided in the PDD of the last version, the scenario with combined baseline options H2 and B2 (situation envisaged by the scenario is following: the existing natural gas boilers will be operated continuously, meanwhile, new natural gas boilers will be installed to produce the heat needed by the production extension) is considered as the most plausible baseline scenario in absence of the project activity. The project activity without JI revenues (the scenario with combined baseline options H1 and B4) is not financially attractive, however the JI will alleviate this identified investment barriers.

Thus, the overall conclusion is that the project activity meets all additionality criteria, is not the baseline scenario and is additional.

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 BV Certification's conclusion are described in Appendix A (refer to CAR 08, CAR 09, CAR 10, and CAR 11).

Brief description of the corrective actions requests are stated below.

CAR 08. Please, note that the step 3a (section B2) contains the wrong reference to the method of financial analysis used in the present project. Please, note that simple cost analysis is not applicable for the present project due to the presence of economic benefits from the reduction of the fuel costs. Actually the method used in the present project is comparison analysis but referred incorrectly by the developer as the simple costs analysis. Please, correct.

CAR 09. Please, note that the Guidance for the Assessment of Investment analysis requires "Input values used in all investment analysis should be valid and applicable at the time of the investment decision taken by the project participant. Therefore application of the 2010 bonds yields in the present project is not acceptable bearing in mind that investment decision has been made in 2008.

Please, note that while there were no new issues of Eurobonds by Ukrainian government between 2007 and 2010 the earlier issues were traded on the markets during that period so the Eurobonds yields for spring 2008 are available and would serve the better basis for deriving of the discount rate. For example as of 14/04/2008 the YTM for 2013 Ukrainian Sovereign Eurobonds has been 5,85%. Source: http://www.kommersant.ua/doc.html?DocID=882263&IssueId=46900

This yield may be modified as suggested by the Developer in order to derive the proper discount rate for the project. But pay attention that Ukrainian Eurobonds are denominated in USD, thereby US inflation rates should be used for adjustment instead of those of Eurozone. For example

the average US inflation index for the period of 1993-2007 has been 1,0265. Source: http://www.bls.gov/cpi/home.htm.
CAR 10. Among other inputs the Developer is applying the property tax at the rate of 2,2%. Please, clarify the source of this input and provide the reference to the relevant law of Ukraine in the PDD.
CAR 11. Please, note that on the sheet cash flow baseline in the file related to Investment analysis, the cells e4, e6, e9 contain wrong formulas. The values shall be divided by 6 not 4 as now present.

All the issues mentioned above are closed based on the project participants response.

4.5 Project boundary (32-33)

The project boundary defined in the PDD encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

(i)   Under the control of the project participants;

(ii)   Reasonably attributable to the project (such as heat generation, uncontrolled burning or decay of surplus biomass residues, emissions from on-site fossil fuel and electricity consumption attributed to the project activity, off-site transportation of biomass residues, and combustion of biomass residues for electricity and / or heat generation); 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 per cent 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

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 will begin or began, and the starting date is 24/09/2009, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 20 years and 00 months.

The PDD states the length of the crediting period in years and months, which is 10 years and 00 months, and its starting date as 24/09/2009,

which is on the date the first emission reductions are generated by the project.

The PDD states that the crediting period for the issuance of ERUs starts only 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 BV Certification's conclusion are described in Appendix A (refer to CAR 25 and CAR 26).
Brief description of the corrective actions requests are stated below.
CAR 25. Please, state the expected operational lifetime of the project in years and months as per *JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04.
CAR 26. Please, state the length of the crediting period in years and months as per JI SSC PDD form and the F-JI-SSC-Bundle, version 04.

Both issues mentioned above are closed based on the project participants response.

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 relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as statistics reporting forms, quality control (QC) and quality assurance (QA) procedures, the operational and management structure that will be applied in implementing the monitoring plan.

The monitoring plan specifies the indicators, constants and variables that are reliable, valid, and that provide a transparent picture of the emission reductions to be monitored such as the weighted average CO_2 emission factor of fuel, CH_4 emission factor for the combustion of biomass residues ($EF_{CH4,BF}$), conservativeness factor to $EF_{CH4,BF}$, net calorific value of fossil fuel consumed, the quantity of fuel combusted, the quantity of electricity consumed, carbon emission factor for the national grid of Ukraine, and net caloric value of husk.

The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" (version 3) developed by the JISC.

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 the weighted average CO_2 emission factor of fuel, CH_4 emission factor for the combustion of biomass residues ($EF_{CH4,BF}$), and conservativeness factor to $EF_{CH4,BF}$.

(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 are not used within this project.

(iii) Data and parameters that are monitored throughout the crediting period, such as net calorific value of fossil fuel consumed the quantity of fuel combusted, the quantity of electricity consumed, carbon emission factor for the national grid of Ukraine, and net caloric value of husk.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, such as direct measurement with sunflower seeds weighting machine, electricity meter, etc.; calculations with periodic recording frequency such as electronic or paper recording method. The respective information for each monitoring parameter is sufficiently described in the section D of the PDD.

The monitoring plan elaborates all algorithms and formulae used for the calculation of baseline and project emissions.

$$BE_y = EL_{BL,GR,y} * EF_{EG,GR,y} + \sum FF_{BL,HG,y,f} * EF_{FF,y,f} + EL_{BL,FF/GR,y} * min (EF_{EG,GR,y}; EF_{EG,FF,y}) + BE_{BR,y} \qquad (1)$$

Where

BE_y	- Baseline emission in year y (tCO_2)
$EL_{BL,GR,y}$	- Baseline minimum electricity generation in the grid in year y (MWh)
$EF_{EG,GR,y}$	- Grid emission factor in year y (tCO_2/MWh)
$FF_{BL,HG,y,f}$	- Baseline fossil fuel demand for process heat in year y (kcal)
$EF_{FF,y,f}$	- CO_2 emission factor for fossil fuel type in year y (kg CO_2 /

kcal)

$EL_{BL,FF/GR,y}$ - Baseline uncertain electricity generation in the grid or on-site in year y (MWh)

$EF_{EG,GR,y}$ - CO_2 emission factor for electricity generation with fossil fuels at the project site in the baseline in year y (tCO_2/MWh)

$BE_{BR,y}$ - Baseline emission due to disposal of biomass residues in year y (tCO_2e)

y - Year of the crediting period

f - Fossil fuel type

Step 1: Determine biomass availability, generation and capacity constraints, efficiencies and power emission factors in the baseline

Step 1.1: Determine total baseline process heat generation

The project activity will install two husk boilers which will produce steam to replace steam generation by existing natural gas boilers. $FF_{BL,HG,y,f}$ will be calculated as follows:

$$EF_{BL,HG,y,f} = \frac{Q_{husk,y} * NCV_{husk,y}}{\eta_{huskbolier}} / \eta_{Bl}$$

(2)

Where:

$Q_{husk,y}$ - The quantity of the husk used in the project activity during year y (tons/a)

$NCV_{husk,y}$ - Net caloric value of husk combusted by the project activity in year y (kcal/kg)

$\eta_{husk\ boiler}$ = The efficiency of the husk boilers

η_{BL} = The efficiency of the existing natural gas boilers which will service in the baseline scenario (default value: 87%)

$$\eta_{huskboiler} = \frac{H_{huskboiler}}{H_{husk}}$$

(3)

Where:

$H_{husk\ boiler}$ = The heat value generated by the husk boiler per hour (kcal/h)

H_{husk} = The heat value contained in the husk which is consumed in one hour (kcal/h)

Step 1.2, Step 1.3, Step 1.6 and Step 1.7 are not applicable for the project activity, because the project activity will not generate electricity.

Step 1.4 is not applicable for the project activity, because the baseline scenario does not include the use of biomass residues for the generation of power and/or heat.

Step 1.5 is not applicable for the specification of the project activity. The impact made by the efficiency of heat generators has been embedded in the determination of the E_f.

Step 2: Determine the minimum baseline electricity generation in the grid
Step 2 is not applicable for the project activity, because the project activity will not generate electricity.

Step 3: Determine the baseline biomass-based heat and power generation
Step 3 is not applicable for the project activity, because the project activity foresees no biomass-based co-generator to generate heat and power.

Step 4: Determine the baseline demand for fossil fuels to meet the balance of process heat and the corresponding electricity generation
Step 4 is not applicable for the project activity, because the natural gas in baseline is only used to generate heat.

Step 5: Determine the baseline emissions due to uncontrolled burning or decay of biomass residues
$$BE_{BR,y} = BE_{BR, B1/B3,y} + BE_{BR, B2,y}$$
(4)
Where
$BE_{BR,y}$ = Baseline emissions due to disposal of biomass residues in year y (tCO$_2$e)
$BE_{BR, B1/B3,y}$ = Baseline emissions due to aerobic decay or uncontrolled burning of biomass residues in year y (tCO$_2$e)
$BE_{BR, B2,y}$ = Baseline emissions due to anaerobic decay of biomass residues in year y (tCO$_2$e)

Step 5.1 is not applicable for the project activity, because the selected baseline scenario of biomass residues disposal is to be anaerobic decay.

Step 5.2: Determine $BE_{BR, B2,y}$

In absence of the project activity, the husks will be transported to the landfill site and disposed there. The methane emission from the anaerobic decay of the husks in the landfill site is calculated applying the "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site, ver.05.1.0".

$$BE_{BR,B2,y} = \varphi * (1-f) * GWP_{CH4} * (1-OX) * \frac{16}{12} * F * DOC_f * MCF * \sum_{x=1}^{y}\sum W_{j,y} * DOC_j * e^{-kj(y-x)} * (1-e^{-kj}) \qquad (5)$$

Where,

φ	= Model correction factor to account for model uncertainties
f	= Fraction of methane captured at the solid waste disposal site (SWDS) and flared, combusted or used in another manner
GWP_{CH4}	= Global Warming Potential of methane
OX	= Oxidation factor
F	= Fraction of methane in the landfill gas
DOC_f	= Fraction of degradable organic carbon that can decompose
MCF	= Methane correction factor
$W_{j,y}$	= Amount of the husks prevented from disposal in the SWDS in the year y
DOC_j	= Fraction of degradable organic carbon in the waste type j
k_j	= Decay rate for the waste type j

Step 6: Calculate baseline emissions
The formula 6 of baseline emissions calculation shall be simplified as follows:

$$BE_y = \sum FF_{BL,HG,y,f} * EF_{FF,y,f} + BE_{BR,B2,y} \qquad (6)$$

Project activity emissions (PE$_y$)

$$PE_y = PE_{FF,y} + PE_{GR,1,y} + PE_{GR,2,y} + PE_{TR,y} + PE_{BR,y} + PE_{WW,y} \qquad (7)$$

Where:

PE_y	= Project emissions during the year y (tCO$_2$)
$PE_{FF,y}$	= Emissions during the year y due to fossil fuel consumption at the project site (tCO$_2$)
$PE_{GR,1,y}$	= Emissions during the year y due to grid electricity imports to

the project site (tCO_2)

$PE_{GR,2,y}$ = Emissions due to a reduction in electricity generation at the project site as compared to the baseline scenario in year y (tCO_2)

$PE_{TR,y}$ = Emissions during the year y due to transport of the biomass residues to the project activity (tCO_2)

$PE_{BR,y}$ = Emissions from the combustion of biomass residues during the year y (tCO_2e)

$PE_{WW,y}$ = Emission from wastewater generated from the treatment of biomass residues in the year y (tCO_2e)

$\underline{PE_{FF,y}}$

CO_2 emission from on-site combustion of fossil fuel is calculated applying the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion, ver.2". The husk boilers will not utilize any auxiliary material or co-fire material in the husk boilers. However, to be conservative, the relevant parameters and calculation are accounted in the PDD in case any auxiliary materials are used occasionally.

$$PE_{FF,y} = FC_{i,j,y} * NCV_{i,y} * EF_{CO2,i,y}$$
(8)

Where:

$FC_{i,j,y}$ = The quantity of fuel type i combusted in process j during the year y (tonne/yr)

$NCV_{i,y}$ = Net caloric value of fossil fuel type i (TJ/Gg)

$EF_{CO2,i,y}$ = The weighted average CO_2 emission factor of fuel type i in year y ($kgCO_2$/TJ)

$\underline{PE_{GR,1,y}}$

CO_2 emission from electricity consumption is calculated applying the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption, ver.1". All the electricity consumption caused by the operation of husk boilers and their peripheral equipments shall be included.

$$PE_{GR,1,y} = \Sigma EC_{i,j,y} * EF_{EG,GR,y}$$
(9)

Where:

$EC_{p,y}$ = The quantity of electricity consumed by the project relevant activity during the year y (MWh/yr)

$EF_{EG,GR,y}$ = CO_2 emission factor of the electricity displaced from grid due to the project activity during the year *y* (tCO$_2$/MWh)

$PE_{GR,2,y}$

The project activity will not generate electricity, therefore, this emission source shall be excluded.

$PE_{TR,y}$

The transportation of husk to the husk boilers is done by conveyer. Therefore, the project activity will consume electricity, rather than fossil fuel to transport the husk. However, CO_2 emission from the transportation of husks will not be considered in the project activity. The reason is, ACM 0006 indicates that project participants shall determine CO_2 emission resulting from transportation of biomass residues to the project activity in cases where the biomass residues are not generated directly at the project site. In the proposed project activity, the husks are generated in OEP which is 145 meters away to the husk boilers. Therefore, it is conservative to exclude this emission source from the project emissions.

$PE_{BR,y}$

Methane emissions from combustion of husks in boilers are calculated as follows.

$$PE_{BR,y} = GWP_{CH4} * EF_{CH4,BF} * f_{CH4} * \Sigma BR_{PJ,n,y} * NCV_{husky}$$

(10)

Where:

$Q_{husk,y}$	= Quantity of husk used in the project activity during the year y (tonnes on dry-basis)
GWP_{CH4}	= Global Warming Potential for methane (tCO$_2$/tCH$_4$)
$NCV_{husk,y}$	= Net caloric value of husk in the year *y* (TJ/Gg).
$EF_{CH4,BF}$	= CH$_4$ emission factor for the combustion of biomass residues in the project activity (kgCH$_4$/TJ)
f_{CH4}	= conservativeness factor to $EF_{CH4,BF}$

$PE_{WW,y}$

This emission source is excluded from the project sources, because there is no wastewater originating from the treatment of husks. The husks combusted in boiler are transported from OEF directly without any treatment.

In summary, formula 1 shall be simplified as follows:
$$PE_y = PE_{FF,y} + PE_{GR,1,y} + PE_{BR,y}$$
(11)

Leakage emissions (LE_y)

The main potential source of leakage for the project activity is an increase in emissions from fossil fuel combustion or other sources due to diversion of the husks from other uses to the project activity as a result of the project activity. The potential of leakage will not be considered either from the project specification or from the common practise of the husk utilization in Ukraine. In Ukraine, the oil extraction factory is the only possible husk consumer. And these factories have no need to import any husks from other factories. The proposed project activity will not compete with other husk user in terms of the husk utilization. Therefore, the estimated leakage of the project activity is Zero.

Emission reductions (ER_y)

Regarding the baseline scenario and the project activity, emission reduction of the project activity will be calculated as follows.

$$ER_y = BE_y - PE_y - LE_y$$
(12)
Where:
ER_y = Emission reductions of the project activity during the year y (tCO_2)
BE_y = Baseline emissions during the year y (tCO_2)
PE_y = Project emissions during the year y (tCO_2)
LE_y = Leakage emissions during the year y (tCO_2)

The monitoring plan presents the quality assurance and control procedures for the monitoring process. 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.

Quality control (QC) and quality assurance (QA) procedures undertaken for data monitored:		
Data	*Uncertainty level of data (high/medium/low)*	*Explain QA/QC procedures planned for these data, or why such procedures are not necessary.*
PM 1 $FC_{i,j,y}$	Low	QA/QC procedure is not necessary for this parameter, because the husk boilers will not utilize any auxiliary material or co-fire material in the husk boilers. However, to be conservative, the relevant parameters and calculation are accounted in the PDD in case any auxiliary materials are used occasionally. The parameter will be recorded on site. In addition, the receipt of the purchase of the fossil fuel will be used as the back-up measurement in case the parameter is not recorded well during the project commissioning.
PM 2 $EC_{p,y}$	Low	The electricity meter installed in the boiler room will be calibrated according to the manufacture's requirement. In addition to the reading of the meter, the electricity bill from grid operator will be applied to cross-check the parameter.
PM 3 $EF_{EG,GR,y}$	Low	The data applied for the ex-post calculation will be cited from State Environmental Investments Agency of Ukraine who has published the annual grid EF during 2009-2011.

PM 4	$NCV_{husk,y}$	Low	5 kg husk will be combusted in each test taken in every 6 months. Paralleled with 1.000 Eco-standard-service test done by Sevastopol Laboratory, the value of this data will be compared with the historical record of the test and the IPCC default value (11.6 TJ/Gg). To keep the result conservative, the highest value between a certain test result, the average value of the historical record and the IPCC default value will be applied in the calculation of the project emission.
BM 1	f	Low	This parameter is decided by the status of LFG capture in the landfill site. The on-site status will be checked annually. Once there is any activity of LFG collection and destroy implemented in the landfill site, latest ACM 0002 will be used to estimate the value of f. The literatures regarding the LFG technology and development in the host country will be reviewed regularly as the cross-check to confirm the baseline scenario of the treatment of husk.
BM 5	$Q_{husk,y}$	Low	The amount of husk is calculated by multiplying 14% with the total weight of the sunflower seed which is processed in the plant. 14% is the experimental and statistical percentage of husk in sunflower seed. The sunflower seed will be weighted by an electronic weight hopper. The parameter will be cross-checked by multiplying the husk feed-in capacity and the working hours of the husk boilers.

BM 6	GWP_{CH4}	Low	GWP_{CH4} shall be updated according to any future COP/MOP decisions.

A monitoring team is organized to supervise the implementation and operation of the project activity from the view of JI development. The members are assigned with responsibilities, including but not limited to the collection and record of monitoring data, date report, process supervision, the development of monitoring report.

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

The monitoring parameters are recorded in the monitoring plan. The record will be saved in electronic form and kept two years after the crediting period. The JI monitoring manager will be in charge of and accountable for the generation of emission reduction, computation, internal audits. The deputy chief power engineer and the deputy technical director and will assist the JI monitoring manager for the data record and collection. The deputy chief power engineer will take responsibility to monitor the parameters in the power sector. The deputy technical director will take the responsibility for the other parameters.

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 Monitoring plan, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 16, CAR 17, CAR 23, CAR 27, CAR 30, CAR 31, CAR 32, CAR 34, CAR 35, CAR 36, CL 09, CL 10, CAR 37, CAR 39, CAR 40, and CAR 45).
Brief description of the clarifications and corrective actions requests are stated below.
CAR 16. Please, provide the justification of the choice of data for $NCV_{i,y}$ parameter applied. Please, clarify if the value 8000 kcal/nm3 ("Inter-sectoral values for heat boilers in Ukraine" approved by the State

Committee on Energy Saving, Order #46 dated 07/05/2001) can be applicable for the baseline period 2008-2010.

CAR 17. Two different symbols (Φ and φ) are used to denote Model correction factor to account for model uncertainties. Please, correct.

CAR 23. Two key parameters used to establish the baseline are not included in the tabular form in the section B.1: E_f - Baseline indicator of the natural gas consumption of per tone of steam; $FF_{BL,HG,y,f}$ - Baseline fossil fuel demand for process heat in year *y*. Please, make corresponding corrections.

CAR 27. All formulae regarding monitoring and their description must be included in the section D.2 of the PDD as per *Guidelines for users of the JI SSC PDD* form and the *F-JI-SSC-Bundle*, version 04. Please, make corresponding corrections.

CAR 30. Table 4 of ACM0006 methodology is referred to in the Section D.2 for CH4 emission factor for the combustion of biomass residues in the project activity. Please, note that this source does not contain CH4 emission factor for husk. Please, correct and provide appropriate justification for the value applied.

CAR 31. Please, provide the justification of the choice of data for the parameters "conservativeness factor" in the section D.2. of the PDD.

CAR 32. The statement "Data will be archived in form of electronic/paper" is irrelevant in the row "Justification of the choice of data or description of measurement methods and procedures (to be applied)" for the parameter quantity of fuel type i combusted in process j during the year y.

CAR 34. It was observed during site visit that the net caloric value of biomass residue was monitored only ones. Please, provide documented evidence to confirm that NCV is monitored every six months.

CAR 35. *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* is referred to determine NCV in the section D.3. The source mentioned is irrelevant as the document is not approved in Ukraine yet. Please, use the data form *IPCC 1996 Guidelines for National Greenhouse Gas Inventories*.

CAR 36. Please, see quality control and quality assurance for NCV: "Paralleled with 1.000 Eco-standard-service test done by Sevastopol Laboratory, the value of this data will be compared with the historical record and the IPCC default value (11.6 TJ/Gg)" Please, clarify in the PDD further algorithm for quality control and quality assurance procedure (what measure will be undertaken if these values differs significantly).

CL 09. Please, clarify what is meant in the section D.3 for $Q_{his,y}$ parameter: ...accuracy rate is 1.1.

CL 10. It is stated in the section D.3. of the PDD that steam meters installed in steam pipe of the husk boilers will be calibrated regularly according to manufacture's recommendation. However, no confirmatory records were provided onsite. Please, submit documented evidence.

CAR 37. Please, add to the PDD section D a flowchart demonstrating data flow from the meter to the data totals for each parameter to be monitored.

CAR 39. Please, specify in the monitoring plan the procedures to be followed if expected monitored data are unavailable.

CAR 40. Please, explicitly and clearly distinguish in the section D of the PDD which of the parameters to be monitored:

(i) 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) 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) are monitored throughout the crediting period.

CAR 45. Please, submit any documented instruction which indicates that the data monitored and required for verification are to be kept for two years after the crediting period as per *JI determination and verification manual*.

All the issues mentioned above are closed based on the project participants response.

4.8 Leakage (40-41)

The main potential source of leakage for the project activity is an increase in emissions from fossil fuel combustion or other sources due to diversion of the husks from other uses to the project activity as a result of the project activity. The potential of leakage will not be considered either from the project specification or from the common practise of the husk utilization in Ukraine. In Ukraine, the oil extraction factory is the only possible husk consumer. And these factories have no need to import any husks from other factories. The proposed project activity will not compete with other husk user in terms of the husk utilization. Therefore, the estimated leakage of the project activity is Zero.

4.9 Estimation of emission reductions (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 the ex ante estimates of:

(a)   Emissions for the project scenario (within the project boundary), which are 14,370 tons of CO_2eq;

(b) Leakage is Zero;

(c) Emissions for the baseline scenario (within the project boundary), which are 290,435 tons of CO_2eq;

(d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are 276,065 tons of CO_2eq.

The estimates referred to above are given:

(a) On a periodic basis;

(b) From 24/09/09 to 23/09/19, covering the whole crediting period;

(c) On a source-by-source basis;

(d) For each GHG gas

(e) In tonnes 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;

The formula used for calculating the estimates referred above are consistent throughout the PDD.

For calculating the estimates referred to above, key factors, e.g. fuel prices and availability, expected market development, etc. 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 actual historical monitored data, IPCC etc. are clearly identified, reliable and transparent.

Emission factors, such as CO_2 emission factor of fuel, 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 annual average of estimated emission reductions over the crediting period is calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period, and multiplying by twelve.

The identified areas of concern as to Estimation of emission reductions, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 05, CAR 15, CL 07, CAR 29, CAR 33, CAR 42, and CAR 43).

Brief description of the clarifications and corrective actions requests are stated below.

CAR 05. Please, supplement the section A.4.4.1 with the Table containing estimates of total as well as annual emission reductions as specified in the *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04. Please, pay attention to using of correct tabular format to prepare this section.

CAR 15. *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* was used to determine CO_2 emission factor for fuel. The source mentioned is irrelevant as the document is not approved in Ukraine yet. Please, use the data form *IPCC 1996 Guidelines for National Greenhouse Gas Inventories* and take it into consideration for ERUs calculations.

CL 07. Please, clarify how CO_2 emissions from the transportation of biomass residues are considered in the ERUs calculations.

CAR 29. To calculate emissions in the project $NCV_{i,y}$ (the same as in the baseline) parameter is stated to be determined once and available already at the stage of determination regarding the PDD. However, this parameter can not be fixed ex-ante and must be monitored in the project activity. Please, make corrections in the monitoring plan. Please, indicate which value of data applied for ex-ante emissions calculation.

CAR 33. Ex-ante value of the quantity of electricity consumed by the project relevant activity during the year *y* sated in the PDD (3.8 MWh/yr) is not equal to the one used in the Excel calculations. Please, correct.

CAR 42. The estimated baseline emissions BE_y (Table 10a) for 2009-2011, 2013-2018 are not equal to the sum of $BE_{heat,y}$ and $BE_{BR,B2,y}$. Please, correct.

CAR 43. Please, prepare the section E.6 of the PDD in accordance with *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04. Please, use correct tabular format.

All the issues mentioned above are closed based on the project participants response.

4.10 Environmental impacts (48)

The PDD lists and attaches 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 environmental impact of the project is included in Environmental Impact Assessment (EIA) of the general project "Plant for oil production by oilseeds extraction". EIA performed in accordance with following regulations:

- DBN A.2.2.1-2003 "Composition and content of the environmental impact assessment (EIA) documents for designing of the plants, buildings and structures"

- The Law of Ukraine "On the environmental protection"

- The Law of Ukraine "Air protection"

- DBN A.2.2-3-2004 "Construction design composition and rules for its development, endorsement and approval"

- OND-86 "Methodology of air pollutant concentration calculation contained in emissions of enterprises"

- DSP-201-97 "State sanitary rules of populated area air protection" and others.

Transboundary impact

Ukraine has ratified three Protocols to the UN Convention on Long-range Transboundary Air Pollution. Two of these Protocols are directly related to the reduction and control over the hazardous substances emissions, namely:

• The 1985 Helsinki Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent, entered into force as of September 2nd, 1987.

• The 1988 Sofia Protocol concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, entered into force as of February 14th, 1991.

The utilization of sunflower seed husk for steam leads to the emissions of nitrogen dioxides of 15.59 t/year and emissions of sulphuric anhydride of 38.425 t/year. In comparison with using natural gas as fuel for oil extraction plant the emissions of nitrogen dioxides decreases per 21.41 t/year. So project favours Ukraine to comply with the Sofia Protocol.

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.

During the period of project implementation environment will be influenced.

Impact on the Air Quality

Implementation of this project will have a positive effect onto the air quality, as it will lead to:

1) Emission reduction of CO_2, NO_x, due to introduction of environmentally friendly technologies, which provide the possibility to use biomass as a fuel;

2) Reduction of natural gas consumption which will lead to greenhouse gas emissions reduction into the atmosphere.

Impact on the Soils

There is no impact onto the soils.

The land code of Ukraine regulates the land use. The rules for land use are also established in The National Technological Standard: DSTU 17.4.1.02.-83 "Nature Protection. Soils. Chemical Agents Classification for Pollution Control".

Impact on the Biodiversity

There is no impact on the biodiversity.

Waste Generation and Treatment

As a result of project implementation the amount of sunflower husk wastes which are brought to the landfill will be reduced. Once the project is implemented, all husk wastes generated during the sunflower husk processing will be utilized by means of using it as a fuel for boilers.

Environmental authority will monitor types of emissions to the atmosphere and industrial effluents, including the discharge density of CO, NO, S_2, solid particles, the effluents of pH, t°, Fe, Cu, h ardness, solid residual, sulphates, chlorides, etc. However, the project is required to meet the respective environmental standard, but not obligate to monitor these types of emissions and effluents.

4.11 Stakeholder consultation (49)

The project owner published article regarding husk boilers at local newspaper 'Vecherniaia gazeta' #6 (1142) from the February 5, 2010 ('Povidomlennia pro namir otrimaty dozvil na vikidi zabrudnuyuchikh rechovin'). According to the Letter #755 14/ZMZH as of 07.10.2011 the project has a positive impact through environmental and the city's social improvements.

The identified areas of concern as to Stakeholder consultation, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 44).
Brief description of the corrective action request is stated below.
CAR 44. Please, clarify in the PDD if any comments on the project have been received. Please, state the nature of comments and the description on whether and how the comments have been addressed.

The issue mentioned above is closed based on the project participants response.

4.12 Determination regarding small scale projects (50-57)

The PDD appropriately specifies and justifies the SSC project types and category that fall under:

(a) Type I (Renewable energy project) and thresholds (ii) of JI SSC projects as defined in "Provisions for joint implementation small-scale projects" developed by the JISC.

(b) Categories I.C. – Thermal energy for the user.

The SSC PDD confirms and shows that the proposed JI SSC project is not a debundled component of a large project by explaining that there is no a JI (SSC) project with a publicly available determination in accordance with paragraph 34 of the JI guidelines:

(a) Which has the same project participants; and

(b) Which applies the same technology/measure and pertains to the same project category; and

(c) Whose determination has been made publicly available in accordance with paragraph 34 of the JI guidelines within the previous 2 years; and

(d) Whose project boundary is within 1 km of the project boundary of the proposed JI SSC project at the closest point.

The identified areas of concern as to Determination regarding small scale projects, project participants response and BV Certification's conclusion are described in Appendix A (refer to CL 08).
Brief description of the clarification request is stated below.
CL 08. Please, provide documented evidence to confirm that the proposed project is eligible as a SSC project (that *the total installed capacity of the co-generator is less than 45 MWthermal.*)

The issue mentioned above is closed based on the project participants response.

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 "Sunflower Husk Utilization for Steam and Electricity Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" 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.

Project participants used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides barrier analysis, investment analysis, and common practice analysis, to determine that the project activity itself is not the baseline scenario.

Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The determination revealed the pending issue related to the current determination stage of the project (the issue of the written approval of the project and the authorization of the project participant by the host Party). If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 04.1 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (04.1) 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 Modified Fats Factory that relate directly to the GHG components of the project.

/1/ PDD "Sunflower Husk Utilization for Steam Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" version 01 dated 15/11/2010.

/2/ PDD "Sunflower Husk Utilization for Steam Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" version 02 dated 04/11/2011.

/3/ PDD "Sunflower Husk Utilization for Steam Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" version 04 dated 25/11/2011.

/4/ PDD "Sunflower Husk Utilization for Steam Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" version 04.1 dated 23/12/2011.

/5/ ER Creative_MCCF v5_XJ 10112010 version 01 dated 14/04/2011.

/6/ ER Creative_MCCF v2_XJ 20110725 version 02 dated 13/10/2011.

/7/ CREATIVE_INVESTMENT ANALYSIS 3NOV2010_XJ 20110723 version 01 dated 13/10/2011.

/8/ ER Creative_MCCF v2_20111104 version 03 dated 07/11/2011.

/9/ CREATIVE_INVESTMENT ANALYSIS 3NOV2010_20111104 version 02 dated 03/11/2011.

/10/ ER Creative_MCCF v2_20111111_ob version 04 dated 25/11/2011.

/11/ CREATIVE_INVESTMENT ANALYSIS 3 NOV2010_20111104_ob version 04 dated 23/11/2011.

/12/ Letter of Endorsement #757/23/7 of 03/07/2009 for the project "Sunflower Husk Utilization for Steam and Electricity Generation at the Oil-Extraction Factory CJSC Modified Fats Factory" issued by National Environmental Investment Agency of Ukraine.

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

/1/ Glossary of JI terms, version 03, JISC.

/2/ Guidance on Criteria for Baseline Setting and Monitoring, version 03, JISC.

/3/ Oil Seeds Extraction Production. Environment Impact Assessment. Project. CJSC Modified Fats Factory, Kirovohrad city. Volume 2.1. 2007

/4/ Photo – Power meter W1 type ИП СА4У-И672М, manufacturing #026417607 of 2007.

/5/ Photo – Power meter W2 type ИП СА4У-И672М, manufacturing

#026354607 of 2007.

/6/ Parameter chart dated 15/10/2009 on Е-16-2,4-350ДВ steam boiler operation, station #3, which works on sunflower husk

/7/ Parameter chart dated 16/10/2009 on Е-16-2,4-350ДВ steam boiler operation, station #3, that works on natural gas

/8/ Parameter chart dated 15/10/2009 on Е-16-2,4-350ДВ steam boiler operation, station #2, that works on sunflower husk

/9/ Parameter chart dated 16/10/2009 on Е-16-2,4-350ДВ steam boiler operation, station #2, that works on natural gas

/10/ Energy consumption logbook for March 2010

/11/ Boiler operation logbook. Data for November 2009 – February 2010

/12/ Energy resources, monthly data for 2010, OEP boiler house #3

/13/ Statement dated 28/02/2011 on natural gas acceptance-transmitting and providing of its transportation services (Kreatyv CJSC)

/14/ Gas consumption, daily data (hours) for 20/03/2011 (report made 21/03/2011)

/15/ Photo - Sunflower seeds weighting machine, type SPC Alya Indikator Manual. Argentina. 2008.

/16/ Logbook Ж.10.106.00.01 started 06/09/2010 on worked-out seeds, OEP preparation shop, Kreatyv CJSC

/17/ Preparation shop operation report, data for March 2011

/18/ Logbook Ж51-29 started 19/02/2011 on sunflower seeds and products of their work-out quality control during technological process

/19/ Letter #2461 dated 02/09/09 concerning that Attestation certificate #2421 dated 14/07/2009 issued to Ellada Private Enterprise production laboratory is stated to be valid for Kreatyv CJSC Production Laboratory #1, issued by Kirovohrad Regional Centre of Standardization, Metrology and Certification State Enterprise.

/20/ Attestation certificate #2421 dated 14/07/2009, valid till 14/07/2012 issued to Ellada Private Enterprise production laboratory by Kirovohrad Regional Centre of Standardization, Metrology and Certification State Enterprise.

/21/ Note #995-21 dated 28/08/2009 on substitution of the name Ellada Private Enterprise production laboratory onto Kreatyv CJSC Production Laboratory #1

/22/ Passport on boiler, registration #1640 (fabrication #8043) (the date of last calibration – 17/11/2009)

/23/ Order #61-0 dated 27/11/2009 on commissioning of steam boilers type Е16-2,4-350ГДВ, registration ##1640, 1641.

/24/ Passport on boiler type Е16-2,4-350ДВ, fabrication #8043 (registration #1640)

/25/ Vechirnia (Evening) newspaper, #6 (1142), Friday, 05/02/2010 – The last outpost let out on lease

/26/ Permit #3510136300-260 dated 31/03/2010, valid till 31/03/2015, on air pollution emissions by stationary sources, issued to Ellada

Private Enterprise (industrial site) by Kirovohrad Environment Protection State Service

/27/ Documents comprehensive study and conclusion concerning approval of air pollution emissions by stationary sources amount reasoning, #366/03-1, dated 27/01/2010, issued by Kirovohrad City Sanitary and Epidemiological Station of the Ministry of Healthcare State Institution

/28/ Contract #201 dated 25/12/2007 between Energomash CJSC and CJSC Modified Fats Factory on equipment supply

/29/ Technical assignment on heat power miniplant for butter extraction plant, Ukraine, Kirovohrad city, with two boilers type Е16-24-350ДВ for husk combustion, one gas boiler type ДЕ16-24-350ГМО and one steam turbine

/30/ Additional agreement #10 dated 11/06/2009 to contract #201 dated 25.12.2007 on boiler house equipment delivery

/31/ Additional agreement #11 dated 11/06/2009 to contract #201 dated 25.12.2007 on boiler house equipment delivery

/32/ Protocol #841 dated 14/08/2009 on sunflower husk sample investigation, issued by Sevastopol laboratory #1

/33/ Protocol #842 dated 14/08/2009 on sunflower husk sample investigation, issued by Sevastopol laboratory #1

/34/ Mashroom Grovers' Handbook 2, Shiitake Cultivation, Sunflower Seed Hulls, Chapter 4. D. Figlas, R. Gonzalez Matute, S. Delmastro, - 2005

/35/ Electricity consumption by the boiler room for the period November 2009 – February 2011

/36/ List of peripheral equipment related to Boiler Room

/37/ Order #130 dated 15/06/2011 on husk net calorific value

/38/ Announcement about intention to receive permit on pollutants emissions into the air by Ellada Private Enterprise (published in Vechirnia Hazeta newspaper, #6 (1142) dated 05/02/2010)

/39/ MFF letter #755-14/ЗМЖ dated 07/10/2011 on publishing the article in Vechirnia Hazeta newspaper, #6 (1142) dated 05/02/2010

/40/ Order #248 dated 24/09/2009 on start of husk boilers type Е-16-2,4-350ДВ operation in testing mode

/41/ Installed capacity of heat generation

/42/ Operation chart dated 16/10/2009 of husk steam boiler type Е-16-2,4-350ДВ, station #2 (husk boiler)

/43/ Excerpt of United State Register of Legal Entities and Individual entrepreneurs of Ukraine as of 02/06/2011.

Persons interviewed:

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

/1/ V. Khadzhyliy – technical director of Modified Fats Factory
/2/ S. Tymchenko – head of the development department
/3/ A. Ishchenko – head of steam and power department
/4/ Y. Savchenko – deputy chief engineer
/5/ O. Bugayov – project manager of GreenStream Network

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APPENDIX A: 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?	The project title is "Sunflower Husk Utilization for Steam and Electricity Generation at the Oil-Extraction Factory CJSC Modified Fats Factory".	OK	OK
-	Is the sectoral scope to which the project pertains presented?	The sectoral scopes to which the project pertains (sectoral scope 1: Energy industries (renewable/non-renewable sources; sectoral scope 13: Waste handling and disposal) are presented.	OK	OK
-	Is the current version number of the document presented?	The current version number of the documented is presented in the PDD (section A.1)	OK	OK
-	Is the date when the document was completed presented?	The date when the document was completed is presented in the PDD section A.1.	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	The purpose of the project with a concise, summarizing explanation of the situation existing prior to the starting date of the project and project scenario is included in the PDD section A.2. **CAR 01.** The description of the baseline	CAR 01	OK

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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	outcome, including a technical description)?	scenario must be added to the section A.2. of the PDD as per _Guidelines for users of the JI SSC PDD form_ and _the F-JI-SSC-Bundle_, version 04. **CL 01.** Some inconsistency was revealed in the PDD. It is stated in the section A.2 that "PrJSC Modified Fats Plant (MFP) was commissioned in 2005". However, this statement contradicts the information below: 'Two existing natural gas boilers are the type of THS-50 working since Dec 2001...". Please, provide corresponding clarification.	OK	OK
-	Is the history of the project (incl. its JI component) briefly summarized?	The history of the project is briefly summarized. **CL 02.** Please, provide any evidence that the carbon revenue has been pre-considered as an additional profit to make the project activity attractive in finance perspective.	CL 02	OK
Project participants				
-	Are project participants and Party(ies) involved in the project listed?	Yes. The information is included in the PDD section A.3.	OK	OK
-	Is the data of the project participants presented in tabular format?	The data concerned the project participants is presented in the tabular format.	OK	OK
-	Is contact information provided in Annex 1 of the PDD?	**CAR 02.** Please, prepare the Annex 1 of the PDD in accordance with _Joint implementation project design document form for small-scale projects_, version 01.1 (all obligatory rows must be presented in the table).	CAR 02	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR 47. Please, provide contact data of Mr. Davydov.	CAR 47	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Ukraine is a host Party. See section A.3 of the PDD.	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine is a host Party.	OK	OK
-	Region/State/Province etc.	Kirovohrad Oblast.	OK	OK
-	City/Town/Community etc.	Kirovohrad.	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 activity is located at PrJSC Modified Fats Factory which is situated at 14 Promyslovyy avenue in the western part of Kirovohrad City. The project is located in the industrial part of Kirovohrad. Coordinates: 48 31'02" N, 32 11'40" 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 relevant technical data and the implementation schedule described?	**CAR 03.** The information concerning the implementation schedule for the measures to be implemented is missing in the section A.4.3. Please, add the appropriate information as per *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04.	CAR 03	OK
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	In the PDD section A.4.4 there is brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	exceed one page)	reduced by the proposed small-scale project, including why the emission reductions would not occur in the absence of the proposed small-scale project, taking into account national and / sectoral policies and circumstances. **CAR 04.** The reference to the Section C is indicated in the section A.4.4 of the PDD: "More details are indicated in Section C". However, the respective information is absent in the Section C. Please, clarify or provide more accurate reference.	CAR 04	OK
-	Is it provided the estimation of emission reductions over the crediting period?	The estimation of emission reductions over the crediting period is presented in the section A.4.4.1 of the PDD.	OK	OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO$_2$e?	**CAR 05.** Please, supplement the section A.4.4.1 with the Table containing estimates of total as well as annual emission reductions as specified in the *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04. Please, pay attention to using of correct tabular format to prepare this section.	CAR 05	OK
-	Are the data from questions above presented in tabular format?	The data on the estimation of emission reduction are presented in tabular format. See CAR 05.	See CAR 05	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period Indicated?	**CAR 26.** Please, state the length of the crediting period in years and months as per *JI SSC PDD form* and the *F-JI-SSC-Bundle*,	CAR 26	OK

DVM Paragra ph	Check Item	Initial finding	Draft Conclusio n	Final Conclusio n
		version 04. See section C.3 of the PDD.		
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO_2 equivalent provided?	Estimates of total as well as annual and average annual emission reductions are 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?	**CAR 06.** The project has no approval of the host Party and the sponsor Parties. Please provide Letters of Approval.	CAR 06	CAR 06 remains open.
19	Does the PDD identify at least the host Party as a "Party involved"?	Yes. See section A.3 of the PDD.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	See CAR 06 of this table.	See CAR 06	Pending
20	Are all the written project approvals by Parties involved unconditional?	All the written project approvals by Parties involved are unconditional.	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?	Each of legal entities listed as project participants in the PDD will be authorized by a Party involved through a written project approval by a Party involved, explicitly indicating the name of the legal entity. See CAR 06. **CAR 24.** Please, indicate if the person/entity mentioned in the section B.4. of the PDD is also a project participant listed in annex 1 as per *Guidelines for users of the JI SSC PDD form*	See CAR 06 CAR 24	Pending OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		and the *F-JI-SSC-Bundle*, version 04.		
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	The PDD explicitly indicates that JI specific approach (based on elements of ACM0006) is used for identifying the baseline. **CAR 07.** The use of the most recent valid version of approved CDM baseline and monitoring methodology is encouraged as per the *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04 (in the case if elements or combinations of approved CDM baseline and monitoring methodologies are applied). Please, provide in the PDD an accurate reference to the CDM methodology used.	CAR 07	OK
		CL 04. Two different CDM methodologies were mentioned in the section B.1. to identify the baseline: ACM0006 and ACM0012. Please, clarify.	CL 04	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	The PDD provides a theoretical description in a complete and transparent manner. **CAR 41.** Annex B is referred to in the PDD (page 42). However, there is no such Annex in the PDD. Please, correct.	CAR 41	OK
23	Does the PDD provide justification that the baseline is established:	**CAR 46.** Please provide a detailed theoretical description of the baseline in a complete and	CAR 46	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(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 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?	transparent manner. This is the requirement of _Guidelines for Users of JI PDD Form for SSC projects_. **CAR 12.** The explanation of the parameter $EF_{FF,y,y}$ indicated in formula (2) of the PDD is missing. Please, provide appropriate description in the section B. **CAR 13.** Please, provide the interpretation of the abbreviation "SWDS" in the PDD. **CAR 14.** Two different parameters ("Conservativeness factor" and "Fraction of methane captured at the SWDS and flared, combusted or used in another manner") are denoted with the same symbol "f" in the PDD and Excel file. Please, correct. **CL 05.** A number of alternatives were considered to establish baseline. However, H3 alternative ("The continuation of heat supplied from existing natural gas boilers. The existing boilers would operate at the same conditions as those observed in the most recent period.") apparently is not realistic and credible one, as the capacity of the existing boilers is not enough to supply the needed amount of heat to MFP and OEP. Please, clarify.	CAR 12 CAR 13 CAR 14 CL 05	OK OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR 15. *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* was used to determine CO_2 emission factor for fuel. The source mentioned is irrelevant as the document is not approved in Ukraine yet. Please, use the data form *IPCC 1996 Guidelines for National Greenhouse Gas Inventories* and take it into consideration for ERUs calculations.	CAR 15	OK
		CAR 17. Two different symbols (Φ and φ) are used to denote "Model correction factor to account for model uncertainties". Please, correct.	CAR 17	OK
		CAR 18. Please, provide the justification of the choice of data for the parameters "Model correction factor to account for model uncertainties" and "Fraction of degradable organic carbon that can decompose" or provide clear and accurate reference.	CAR 18	OK
		CAR 19. It is stated in section B of the PDD that the value of Methane correction factor equals to 1 can be applied because the solid waste disposal sites identified as the "anaerobic managed solid waste disposal sites". At the same time, landfill site "is ranked as "unmanaged solid waste disposal site" (see Annex 2). Please, correct.	CAR 19	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR 20. The default value 20 for husk is applied for fraction of degradable organic carbon in the waste type *j*. Please, provide clear and accurate reference and indicate if this value was used for wet or dry waste.	CAR 20	OK
		CAR 21. The justification of the default value 0.2 for decay rate for the waste type *j* is absent in the Annex 2 (referred to in the PDD, section B.1). Please, provide appropriate justification and traceable reference.	CAR 21	OK
		CAR 22. PDD states that ex-ante value=0 is used for the parameter "Fraction of methane in the SWDS gas". However, the value 0.5 is used in the Excel file. Please, provide appropriate clarification.	CAR 22	OK
		CAR 23. Two key parameters used to establish the baseline are not included in the tabular form in the section B.1: E_f - Baseline indicator of the natural gas consumption of per tone of steam; $FF_{BL,HG,y,f}$ - Baseline fossil fuel demand for process heat in year *y*. Please, make corresponding corrections.	CAR 23	OK
		CL 06. Please, clarify how CO_2 emissions from surplus biomass can potentially lead to changes of carbon pools in the LULUCF sector (please, see section B.3. of the PDD).	CL 06	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR 16. Please, provide the justification of the choice of data for NCVi,y parameter applied. Please, clarify if the value 8000 kcal/nm3 ("Inter-sectoral values for heat boilers in Ukraine" approved by the State Committee on Energy Saving, Order #46 dated 07/05/2001) can be applicable for the baseline period 2008-2010.	CAR 16	OK
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?	See section B.1 of the PDD. See CAR 07 of this table. See CL 04 of this table. **CAR 30.** Table 4 of ACM0006 methodology is referred to in the Section D.2 for CH_4 emission factor for the combustion of biomass residues in the project activity. Please, note that this source does not contain CH_4 emission factor for husk. Please, correct and provide appropriate justification for the value applied.	See CAR 07 See CL 04 CAR 30	OK OK OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	See the PDD section B.1.	OK	OK
Approved CDM methodology approach only				
26 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
26 (a)	Is the approved CDM methodology	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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)?			
26 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
26 (c)	Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	N/A	N/A	N/A
26 (d)	Is the baseline identified appropriately as a result?	N/A	N/A	N/A
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	**CAR 08.** Please, note that the step 3a (section B2) contains the wrong reference to the method of financial analysis used in the present project. Please, note that simple cost analysis is not applicable for the present project due to the presence of economic benefits from the reduction of the fuel costs. Actually the method used in the present project is comparison analysis but referred incorrectly by the developer as the simple costs analysis. Please, correct.	CAR 08	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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".	**CAR 09.** Please, note that the *Guidance for the Assessment of Investment analysis* requires "Input values used in all investment analysis should be valid and applicable at the time of the investment decision taken by the project participant. Therefore application of the 2010 bonds yields in the present project is not acceptable bearing in mind that investment decision has been made in 2008. Please, note that while there were no new issues of Eurobonds by Ukrainian government between 2007 and 2010 the earlier issues were traded on the markets during that period so the Eurobonds yields for spring 2008 are available and would serve the better basis for deriving of the discount rate. For example as of 14/04/2008 the YTM for 2013 Ukrainian Sovereign Eurobonds has been 5,85%. Source: http://www.kommersant.ua/doc.html?DocID=882263&IssueId=46900 This yield may be modified as suggested by the Developer in order to derive the proper discount rate for the project. But pay attention that Ukrainian Eurobonds are denominated in USD, thereby US inflation rates should be used for adjustment instead of those of Eurozone. For example the average US inflation index for the period of 1993-2007 has been 1,0265. Source: http://www.bls.gov/cpi/home.htm.	CAR 09	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR 10. Among other inputs the Developer is applying the property tax at the rate of 2,2%. Please, clarify the source of this input and provide the reference to the relevant law of Ukraine in the PDD.	CAR 10	OK
		CAR 11. Please, note that on the sheet cash flow baseline in the file related to Investment analysis, the cells e4, e6, e9 contain wrong formulas. The values shall be divided by 6 not 4 as now present.	CAR 11	OK
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	See section D.1 of the PDD.	OK	OK
29 (b)	Are additionality proofs provided?	Necessary additionality proofs are provided.	OK	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	The additionality is demonstrated appropriately as a result.	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 CAR 09.	See CAR 09	OK
Approved CDM methodology approach only				
31 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance with the selected methodology?	N/A	N/A	N/A
31 (d)	Are additionality proofs provided?	N/A	N/A	N/A
31 (e)	Is the additionality demonstrated appropriately as a result?	N/A	N/A	N/A
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? (ii) Reasonably attributable to the project? (iii) Significant?	Yes, the project boundary defined in the PDD encompasses all anthropogenic emissions by sources. See the PDD section B.3.	OK	OK
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 B.3 of the PDD.	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 the gases and sources included appropriately are described and justified in the PDD by using Figure 3 of the PDD section B.3.	OK	OK
32 (d)	Are all gases and sources included	See Table 6 "Summary of gases and sources	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	included in the project boundary" of the PDD section B.3.		
Approved CDM methodology approach only				
33	Is the project boundary defined in accordance with the approved CDM methodology?	N/A	N/A	N/A
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 starting date of the project is indicated in the section C.1 of the PDD. **CL 03.** Please, provide documented evidence to confirm the project starting date (June 20, 2008) and the starting date of the crediting period (September 26, 2009).	CL 03	OK
34 (a)	Is the starting date after the beginning of 2000?	The project starting date 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?	**CAR 25.** Please, state the expected operational lifetime of the project in years and months as per *JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04.	CAR 25	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	See CAR 26 of this table.	See CAR 26	OK
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?	The starting date of the crediting period is the date of the first emission reductions generated by the project.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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 PDD states that the crediting period for issuance of ERUs starts after the beginning of 2008 and does not 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 crediting period extends beyond 2012, and the PDD states that the extension is subject to the host Party approval. The estimates of emission reductions are presented separately for those until 2012 and those after 2012. See section A.4.4.1 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 indicates that JI specific approach is used. See section D.1 of the PDD.	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	The monitoring plan describes relevant factors that will be monitored, period in which they will be monitored, and factors for the control and reporting of project performance. **CAR 28.** Two key parameters used to establish the baseline are missing in the section D.2: Ef - Baseline indicator of the natural gas	CAR 28	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	performance?	consumption of per tone of steam; $FF_{BL,HG,y,f}$ - Baseline fossil fuel demand for process heat in year y. Please, make corresponding corrections.		
		CL 09. Please, clarify what is meant in the section D.3 for $Q_{his,y}$ parameter: ...accuracy rate is 1.1.	CL 09	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	The monitoring plan describes indicators, constants and variables used. See CAR 12 of this table.	See CAR 12	OK
		See CAR 16 of this table.	See CAR 16	OK
		See CAR 17 of this table.	See CAR 17	OK
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?	The default values are presented in a transparent manner.		
		See CAR 16 of this table.	See CAR 16	OK
		See section D of the PDD. See CAR 30 of this table.	See CAR 30	OK
		CAR 35. *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* is referred to determine NCV in the section D.3. The source mentioned is irrelevant as the document is not	CAR 35	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		approved in Ukraine yet. Please, use the data form _IPCC 1996 Guidelines for National Greenhouse Gas Inventories_.		
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?	For those values that are to be provided by project participants, the monitoring plan indicates how the values are to be selected. **CAR 38.** Please, indicate if the person/entity mentioned in the section D.5. of the PDD is also a project participant listed in annex 1 as per _Guidelines for users of the JI SSC PDD form_ and the _F-JI-SSC-Bundle_, version 04.	CAR 38	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?	**CAR 31.** Please, provide the justification of the choice of data for the parameters "conservativeness factor" in the section D.2. of the PDD. **CAR 32.** The statement "Data will be archived in form of electronic/paper" is irrelevant in the row "Justification of the choice of data or description of measurement methods and procedures (to be applied)" for the parameter quantity of fuel type _i_ combusted in process _j_ during the year _y_.	CAR 31 CAR 32	OK OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	**CAR 39.** Please, specify in the monitoring plan the procedures to be followed if expected monitored data are unavailable.	CAR 39	OK
36 (b) (iv)	Are International System Unit (SI units) used?	International System Units (SI units) are partly used.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	See section D of the PDD.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	The use of parameters, coefficients, and variables is 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"?	Yes. See section D.1 of the PDD.	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?	**CAR 29.** To calculate emissions in the project $NCV_{i,y}$ (the same as in the baseline) parameter is stated to be determined once and available already at the stage of determination regarding the PDD. However, this parameter can not be fixed ex-ante and must be monitored in the project activity. Please, make corrections in the monitoring plan. Please, indicate which value of data applied for ex-ante emissions calculation. **CAR 40.** Please, explicitly and clearly distinguish in the section D of the PDD which of the parameters to be monitored: (i) are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period),	CAR 29 CAR 40	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(iii) Data and parameters that are monitored throughout the crediting period?	and that are available already at the stage of determination? (ii) 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) are monitored throughout the crediting period.		
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	**CAR 34.** It was observed during site visit that the net caloric value of biomass residue was monitored only ones. Please, provide documented evidence to confirm that NCV is monitored every six months.	CAR 34	OK
		CAR 37. Please, add to the section D a flowchart demonstrating data flow from the meter to the data totals for each parameter to be monitored.	CAR 37	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, as appropriate?	**CAR 27.** All formulae regarding monitoring and their description must be included in the section D.2 of the PDD as per *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04. Please, make corresponding corrections.	CAR 27	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	Yes. See section D of the PDD.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	See CAR 17 of this table.	See CAR 17	OK
		See CAR 28 of this table.	See CAR 28	OK
36 (f) (iii)	Are all equations numbered?	Yes, all equations are numbered. See response to CAR 29 of the next table.	See CAR 29	OK
36 (f) (iv)	Are all variables, with units indicated defined?	All variables are provided with units indicated. See CAR 12 of this table.	See CAR 12	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	See CAR 31 of this table.	See CAR 31	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	**CAR 36.** Please, see quality control and quality assurance for NCV: "Paralleled with 1.000 Eco-standard-service test done by Sevastopol Laboratory, the value of this data will be compared with the historical record and the IPCC default value (11.6 TJ/Gg)" Please, clarify in the PDD further algorithm for quality control and quality assurance procedure (what measure will be undertaken if these values differs significantly).	CAR 36	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?	**CAR 42.** The estimated baseline emissions BEy (Table 10a) for 2009-2011, 2013-2018 are not equal to the sum of $BE_{heat,y}$ and $BE_{BR,B2,y}$. Please, correct.	CAR 42	OK
36 (f)	Are any parts of the algorithms or	There are explanations for the formulas		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
(vii)	formulae that are not self-evident explained?	provided in the PDD. See CAR 12 of this table. See CAR 27 of this table.	See CAR 12 See CAR 27	OK OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	See section D of the PDD.	OK	OK
36 (f) (vii)	Are references provided as necessary?	See CAR 18 of this table.	CAR 18	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Yes. Key assumptions are explained in a transparent manner.	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?	The assumed uncertainty of the default CH_4 emission factor of husk (30) is 300%. According to the Table 5 of ACM0006, when the assumed uncertainty is greater than 100, the conservativeness factor should be 1.37.	OK	OK
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	See section D.3 of the PDD. See CAR 36 of this table.	See CAR 36	OK
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be	See section D of the PDD.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?			
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	The monitoring plan is developed in a conservative manner.	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?	See CAR 36 of this table. **CL 10.** It is stated in the section D.3. of the PDD that steam meters installed in steam pipe of the husk boilers will be calibrated regularly according to manufacture's recommendation. However, no confirmatory records were provided onsite. Please, submit documented evidence.	See CAR 36 CL 10	OK OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	See section D.3 of the PDD.	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 plan is based on the good monitoring practices.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (l)	Does the monitoring plan provide, 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 but not including data that are calculated with equations?	See section D.2 of the PDD.	OK	OK
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?	**CAR 45.** Please, submit any documented instruction which indicates that the data monitored and required for verification are to be kept for two years after the crediting period as per JI determination and verification manual.	CAR 45	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?	Selected elements of approved ACM0006 CDM methodology of the last version are used. The selected elements, together with elements supplementary developed by the project participants are in line with 36 above.

See CL 04 of this table. | See CL 04 | OK |
Approved CDM methodology approach only				
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
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	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the grace period (was the methodology revised to a newer version in the past two months)?			
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
38 (c)	Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with the referenced approved CDM methodology?	N/A	N/A	N/A
38 (d)	Is the monitoring plan established appropriately as a result?	N/A	N/A	N/A
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	The monitoring plan does not indicate overlapping monitoring periods during the crediting period.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?			
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 main potential source of leakage for the project activity is an increase in emissions from fossil fuel combustion or other sources due to diversion of the husks from other uses to the project activity as a result of the project activity. The potential of leakage will not be considered either from the project specification or from the common practice of the husk utilization in Ukraine. In Ukraine, the oil extraction factory is the only possible husk consumer. And these factories have no need to import any husks from other factories. The proposed project activity will not compete with other husk user in terms of the husk utilization.		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Therefore, the estimated leakage of the project activity is Zero. See CL 06 of this table.	See CL 06	OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	See section D.1 of the PDD (paragraph "Leakage emissions").	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?	N/A	N/A	N/A
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 chosen approach is assessment of emissions in the baseline scenario and in the project scenario.	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	The PDD provides ex ante estimates of emissions for the project scenario and for the baseline scenario (within the project boundary). The estimated leakage of the project activity is Zero; therefore, emission reductions adjusted by leakage are equal to the difference between the baseline and project emissions. **CL 07.** Please, clarify how CO_2 emissions from the transportation of biomass residues are considered in the ERUs calculations.	CL 07	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	enhancements of net removals adjusted by leakage?			
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?	N/A	N/A	N/A
45	For both approaches in 42 (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	The estimates mentioned in 43 are given on a periodic basis, on a source-by-source basis. The estimates are given 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. The formulas are used for calculating the estimates are consistent throughout the project design document. See CAR 27 of this table.	See CAR 27	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	See CAR 28 of this table.	See CAR 28	OK
	(d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent?	See CAR 35 of this table.	See CAR 35	OK
		See CAR 15 of this table.	See CAR 15	OK
	(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?	The estimation mentioned in 43 is based on conservative assumptions. See CAR 30 of this table.	See CAR 30	OK
	(f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner?	**CAR 43.** Please, prepare the section E.6 of the PDD in accordance with *Guidelines for users of the JI SSC PDD form* and the *F-JI-SSC-Bundle*, version 04. Please, use correct tabular format.	See CAR 43	OK
	(g) Are the estimates in 43 or 44 consistent 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	**CAR 42.** The estimated baseline emissions BE_y (Table 10a) for 2009-2011, 2013-2018 are not equal to the sum of $BE_{heat,y}$ and $BE_{BR,B2,y}$. Please, correct. The annual average of estimated emission reductions is calculated by dividing the total estimated emission reductions over the crediting period by the total months of the	See CAR 42	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	months of the crediting period and multiplying by twelve?	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?	**CAR 33.** Ex-ante value of the quantity of electricity consumed by the project relevant activity during the year *y* sated in the PDD (3.8 MWh/yr) is not equal to the one used in the Excel calculations. Please, correct.	CAR 33	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?	N/A	N/A	N/A
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 CO2 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?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	– Are the estimates consistent throughout the PDD? – 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 environmental impact of the project is included in Environmental Impact Assessment (EIA) of the general project "Plant for oil production by oilseeds extraction". EIA performed in accordance with following regulations: • DBN A.2.2.1-2003 "Composition and content of the environmental impact assessment (EIA) documents for designing of the plants, buildings and structures" • The Law of Ukraine "On the environmental protection" • The Law of Ukraine "Air protection" • DBN A.2.2-3-2004 "Construction design composition and rules for its development, endorsement and approval" • OND-86 "Methodology of air pollutant	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		concentration calculation contained in emissions of enterprises" • DSP-201-97 "State sanitary rules of populated area air protection" and others. Ukraine has ratified three Protocols to the UN Convention on Long-range Transboundary Air Pollution. Two of these Protocols are directly related to the reduction and control over the hazardous substances emissions, namely: • The 1985 Helsinki Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent, entered into force as of September 2nd, 1987. • The 1988 Sofia Protocol concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, entered into force as of February 14th, 1991.		
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?	During the period of project implementation environment will be influenced. *Impact on the Air Quality* Implementation of this project will have a positive effect onto the air quality, as it will lead to: 1) Emission reduction of CO_2, NOx, due to introduction of environmentally friendly technologies, which provide the possibility to use biomass as a fuel; 2) Reduction of natural gas consumption which will lead to greenhouse gas emissions reduction	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		into the atmosphere. *Impact on the Soils* There is no impact onto the soils. The land code of Ukraine regulates the land use. The rules for land use are also established in The National Technological Standard: DSTU 17.4.1.02.-83 "Nature Protection. Soils. Chemical Agents Classification for Pollution Control". *Impact on the Biodiversity* There is no impact on the biodiversity. *Waste Generation and Treatment* As a result of project implementation the amount of sunflower husk wastes which are brought to the landfill will be reduced. Once the project is implemented, all husk wastes generated during the sunflower husk processing will be utilized by means of using it as a fuel for boilers. Environmental authority will monitor types of emissions to the atmosphere and industrial effluents, including the discharge density of CO, NO, S_2, solid particles, the effluents of pH, t°, Fe, Cu, hardness, solid residual, sulphates, chlorides, etc. However, the project is required to meet the respective environmental standard, but not obligate to monitor these types of emissions and effluents.		
Environmental impacts				
49	If stakeholder consultation was	**CAR 44.** Please, clarify in the PDD if any	CAR 44	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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? (c) A description on whether and how the comments have been addressed?	comments on the project have been received. Please, state the nature of comments and the description on whether and how the comments have been addressed.		
Determination regarding small-scale projects (additional elements for assessment)				
50	Does the PDD appropriately specify and justify the SSC project type(s) and category(ies) that fall under: (a) One of the types and thresholds of JI SSC projects as defined in Provisions for joint implementation small-scale projects? If the project contains more than one JI SSC project type component, does each component meet the relevant threshold criterion? (b) One of the SSC project categories defined in the most recent version of appendix B of annex II to decision 4/CMP.1, or an additional project category approved by the JISC in accordance with the relevant provision in "Provisions for joint	The PDD appropriately specifies the SSC project type and category: Type I JI SSC – Renewable energy project. Sectoral scope 1: Energy industries (renewable/non-renewable).	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	implementation small-scale projects"?			
51	Does the SSC PDD confirms and shows that the proposed JI SSC project is not a debundled component of a large project by explaining that there does not exist a JI (SSC) project with a publicly available determination in accordance with paragraph 34 of the JI guidelines: (a) Which has the same project participants; and (b) Which applies the same technology/measure and pertains to the same project category; and (c) Whose determination has been made publicly available in accordance with paragraph 34 of the JI guidelines within the previous 2 years; and (d) Whose project boundary is within 1 km of the project boundary of the proposed JI SSC project at the closest point?	**CL 08.** Please, provide documented evidence to confirm that the proposed project is eligible as a SSC project (that the total installed capacity of the co-generator is less than 45 MW$_{thermal}$).	CL 08	OK
Applicable to bundled JI SSC projects only				
52 (a)	Do all projects in the bundle: (i) Have the same crediting period? (ii) Comply with the provisions for JI SSC projects defined in "Provisions	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	for joint implementation small-scale projects", in particular the thresholds referred to in 50 (a) above? (iii) Retain their distinctive characteristics (i.e. location, technology/measure etc.)?			
52 (b)	Does the composition of the bundle not change over time?	N/A	N/A	N/A
52 (c)	Has the AIE received (from the project participants): (i) Information on the bundle using the form developed by the JISC (F-JI-SSCBUNDLE)? (ii) A written statement signed by all project participants indicating that they agree that their individual projects are part of the bundle and nominating one project participant to represent all project participants in communicating with the JISC? (iii) Indication by the Parties involved that they are aware of the bundle in their project approvals referred to in 19 above?	N/A	N/A	N/A
53	If the project participants prepared a single SSC PDD for the bundled JI SSC projects, do(are) all the projects: (a) Pertain to the same JI SSC project category?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(b) Apply the same technology or measure? (c) Located in the territory of the same host Party?			
54	If the project participants prepared separate SSC PDDs for the bundled JI SSC projects, do(are) all the projects: (a) Have SSC PDDs been prepared for all JI SSC projects in the bundle? (b) Does each SSC PDD contain a single JI SCC project in the bundle?	N/A	N/A	N/A
55	If the projects in the bundle use the same baseline, does the F-JI-SSC-BUNDLE provide an appropriate justification for the use of the same baseline considering the particular situation of each project in the bundle?	N/A	N/A	N/A
56	Does the PDD indicate which of the following approaches is used for establishing a monitoring plan? (a) By preparing a separate monitoring plan for each of the constituent projects; (b) By preparing an overall monitoring plan including a proposal of monitoring of performance of the constituent projects on a sample	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	basis, as appropriate.			
56 (b)	If the approach 57 (b) above is used, (i) Are all the JI SSC projects located in the territory of the same host Party? (ii) Do all the JI SSC projects pertain to the same project category? (iii) Do all the JI SSC projects apply the same technology or measure? (iv) Does the overall monitoring plan reflect good monitoring practice appropriate to the bundled JI SSC projects and provide for collection and archiving of the data needed to calculate the emission reductions achieved by the bundled projects?	N/A	N/A	N/A
Applicable to all JI SSC projects				
57	Is the leakage only within the boundaries of non-Annex I Parties considered?	See section B.3 of the PDD.	OK	OK
Determination regarding land use, land-use change and forestry projects (additional/alternative elements for assessment)				
58	Does the PDD appropriately specify how the LULUCF project conforms to: (a) The definitions of LULUCF activities included in paragraph 1 of the annex to decision 16/CMP.1, applying good practice guidance for LULUCF as decided by the CMP, as appropriate?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(b) In the case of afforestation, reforestation and/or forest management projects, the definition of "forest" selected by the host Party, which specifies: (i) A single minimum tree crown cover value (between 10 and 30 per cent)? and (ii) A single minimum land area value (between 0.05 and 1 hectare)? and (iii) A single minimum tree height value (between 2 and 5 metres)?			
JI specific approach only				
59	Baseline setting - in addition to 22-26 above Does the PDD provide an explanation how the baseline chosen: – Takes into account the good practice guidance for LULUCF, developed by the IPCC? – Ensures conformity with the definitions, accounting rules, modalities and guidelines under Article 3, paragraphs 3 and 4, of the Kyoto Protocol?	N/A	N/A	N/A
60	Project boundary - alternative to 32-33 (a) Does the project boundary geographically delineate the JI	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	LULUCF project under the control of the project participants? (a) If the JI LULUCF project contains more than one discrete area of land, (i) Does each discrete area of land have a unique geographical identification? (ii) Is the boundary defined for each discrete area? (ii) Does the boundary not include the areas in between these discrete areas of land? (b) Does the project boundary encompass all anthropogenic emissions by sources and removals by sinks of GHGs which are: (i) Under the control of the project participants; (ii) Reasonably attributable to the project; and (iii) Significant? (c) Does the project boundary account for all changes in the following carbon pools: – Above-ground biomass; – Below-ground biomass; − Litter; − Dead wood; and – Soil organic carbon?			

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(c) Does the PDD provide: (i) The information of which carbon pools are selected? (ii) If one or more carbon pools are not selected, transparent and verifiable information that indicates, based on conservative assumptions, that the pool is not a source? (d) Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria in (b) above?			
61 (a)	Project boundary - alternative to 32-33 (cont.) Are the delineation of the project boundary and the gases and sources/sinks included appropriately described and justified in the PDD?	N/A	N/A	N/A
61 (b)	Project boundary - alternative to 32-33 (cont.) Are all gases and sources/sinks included explicitly stated, and the exclusions of any sources/sinks related to the baseline or the LULUCF project appropriately justified?	N/A	N/A	N/A
62	Monitoring plan - in addition to 35-39 Does the PDD provide an appropriate description of the sampling design that will be used for the calculation	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	of the net anthropogenic removals by sinks occurring within the project boundary in the project scenario and, in case the baseline is monitored, in the baseline scenario, including, inter alia, stratification, determination of number of plots and plot distribution etc.?			
63	Does the PDD take into account only the increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of GHGs outside the project boundary?	N/A	N/A	N/A
Approved CDM methodology approach only				
64 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
64 (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)?	N/A	N/A	N/A
64 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
64 (c)	Are all explanations, descriptions and analyses made in accordance	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	with the referenced approved CDM methodology?			
64 (d)	Are the baseline, additionality, project boundary, monitoring plan, estimation of enhancements of net removals and leakage established appropriately as a result?	N/A	N/A	N/A
Determination regarding programmes of activities (additional/alternative elements for assessment)				
66	Does the PDD include: (a) A description of the policy or goal that the JI PoA seeks to promote? (b) A geographical boundary for the JI PoA (e.g. municipality, region within a country, country or several countries) within which all JPAs included in the JI PoA will be implemented? (c) A description of the operational and management arrangements established by the coordinating entity for the implementation of the JI PoA, including: – The maintenance of records for each JPA? – A system/procedure to avoid double counting (e.g. to avoid including a new JPA that has already been determined)? – Provisions to ensure that persons operating JPAs are aware and have	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	agreed to their activity being added to the JI PoA? (d) A description of each type of JPAs that will be included in the JI PoA, including the technology or measures to be used? (e) The eligibility criteria for inclusion of JPAs to the JI PoA for each type of JPA in the JI PoA?			
67	_Project approvals by Parties involved - additional to 19-20_ Are all Parties partly or entirely within the geographical boundary for the JI PoA listed as "Parties involved" and indicated as host Parties in the PDD?	N/A	N/A	N/A
68	_Authorization of project participants by Parties involved - additional to 21_ Is the coordinating entity presented in the PDD authorized by all host Parties to coordinate and manage the JI PoA?	N/A	N/A	N/A
69	_Baseline setting - additional to 22-26_ Is the baseline established for each type of JPA?	N/A	N/A	N/A
70	_Additionality - additional to 27-31_ Does the PDD indicate at which of the following levels that additionality is demonstrated? (a) For the JI PoA	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(b) For each type of JPA			
71	*Crediting period - additional to 34* Is the starting date of the JI PoA after the beginning of 2006 (instead of 2000)?	N/A	N/A	N/A
72	*Monitoring plan - additional to 35-39* Is the monitoring plan established for each technology and/or measure under each type of JPA included in the JI PoA?	N/A	N/A	N/A
73	Does the PDD include a table listing at least one real JPA for each type of JPA?	N/A	N/A	N/A
73	For each real JPA listed, does the PDD provide the information of: (a) Name and brief summary of the JPA? (b) The type of JPA? (c) A geographical reference or other means of identification? (d) The name and contact details of the entity/individual responsible for the operation of the JPA? (e) The host Party(ies)? (f) The starting date of the JPA? (g) The length of the crediting period of the JPA? (h) Confirmation that the JPA meets all the eligibility requirements for its type, including a description of how	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	these requirements are met? (i) Confirmation that the JPA has not been determined as a single JI project or determined under a different JI PoA?			

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
CAR 01. The description of the baseline scenario must be added to the section A.2. of the PDD as per *Guidelines for users of the JI SSC PDD form* and *the F-JI-SSC-Bundle, version 04.*	-	Brief description of the baseline scenario has been added to the Section A.2. of the PDD.	Based on the information added to the PDD, the issue is closed.
CL 01. Some inconsistency was revealed in the PDD. It is stated in the section A.2 that "PrJSC Modified Fats Plant (MFP) was commissioned in 2005". However, this statement contradicts the information below: 'Two existing natural gas boilers are the type of THS-50 working since Dec 2001...". Please, provide corresponding clarification.	-	The statement "Two existing natural gas boilers are the type of THS-50 working since Dec 2001..." has been deleted from the Section A.2. of the PDD.	The issue is closed due to the corrections made.

| CL 02. Please, provide any evidence that the carbon revenue has been pre-considered as an additional profit to make the project activity attractive in finance perspective. | - | Response #1.

The letter of Endorsement (LoE) of the project activity (No. 757/23/7) was issued by the NEIA of Ukraine evidencing that the carbon revenue has been pre-considered.

Response #2.

The carbon revenue from JI has been considered well before the project activity start. On 5 July 2007, the project developer had a management meeting on making decision regarding the JI project implementation and carbon revenue from JI. The copy of the signed protocol #12a on the meeting conclusion as of 05/07/2007 has been submitted to the determination team. | Conclusion on response #1.

LoE can not evidence that the carbon revenue has been pre-considered.

Conclusion on response #2.

The issue is closed based on the documentation provided. |

| CL 03. Please, provide documented evidence to confirm the project starting date (June 20, 2008) and the starting date of the crediting period (September 26, 2009). | 34 (a) | Response #1.

The project starting date should be December 25, 2007 in accordance to the Contract #201 for installation of the two husk boilers which is as of December 25, 2007. The Contract #201 as of 25/12/2007 was submitted for the review during determination on-site visit. PDD has been corrected accordingly.

The Order #248 "On the start of Husk Boilers Testing Operation" has been provided to AIE confirming starting date of the testing operation of the two husk boilers which is defined to be the starting date of crediting period.

Response #2.

The starting date of the project is revised as September 24, 2009 as same as the starting date of the crediting period (please refer to the Order #248). | Conclusion on response #1.

Please, (in the PDD section C.1) confirm documentarily the project starting date (please, refer to the Contract #201 for installation of the two husk boilers).

Conclusion on response #2.

The issue is closed due to the modification made in the PDD. |

CAR 02. Please, prepare the Annex 1 of the PDD in accordance with *Joint implementation project design document form for small-scale projects*, version 01.1 (all obligatory rows must be presented in the table).	-	Table "Contact Information On Project Participants" in the Annex 1 of the PDD has been corrected accordingly.	Based on the corrections made, CAR 02 is resolved.
CAR 03. The information concerning the implementation schedule for the measures to be implemented is missing in the section A.4.3. Please, add the appropriate information as per *Guidelines for users of the JI SSC PDD form* and *the F-JI-SSC-Bundle*, version 04.	-	Response #1. The information concerning the implementation schedule of the two husk boilers has been added to the Section A4.3 of the PDD.	Conclusion on response #1. Please, delete the second item in the implementation schedule because the LoE issuance is not a real action related to the project implementation.
		Response #2. The name of the table is changed as Project History from the Implementation schedule of the project. The LoE is considered to be an essential milestone of the project activity. Thus, it is kept in the Table of Project History.	Conclusion on response #2. Based on the corrections made, the issue is closed.

CAR 04. The reference to the Section C is indicated in the section A.4.4 of the PDD: "More details are indicated in Section C". However, the respective information is absent in the Section C. Please, clarify or provide more accurate reference.	-	The Section E should be referred. The PDD has been corrected correspondingly.	CAR 04 is closed due to the corrections made.
CAR 05. Please, supplement the section A.4.4.1 with the Table containing estimates of total as well as annual emission reductions as specified in the *Guidelines for users of the JI SSC PDD form* and *the F-JI-SSC-Bundle, version 04.* Please, pay attention to using of correct tabular format to prepare this section.	-	Response #1. The Table containing estimates of total as well as annual emission reductions in the Section A.4.4.1. of the PDD has been corrected accordingly. Response #2. The figures in the table in Section A.4.4.1 have been corrected.	Conclusion on response #1. Please, calculate accurately the value of total estimated emission reductions over the years 2013-2019, and all the subsequent calculations. Conclusion on response #2. The issue is closed.

| CAR 06. The project has no approval of the host Party and the sponsor Parties. Please provide Letters of Approval. | 19 | The Letters of approval of the host Party and the sponsor will be provided after the Determination Report is issued by AIE. | CAR 06 remains open. |

CAR 07. The use of the most recent valid version of approved CDM baseline and monitoring methodology is encouraged as per the *Guidelines for users of the JI SSC PDD form* and *the F-JI-SSC-Bundle, version 04* (in the case if elements or combinations of approved CDM baseline and monitoring methodologies are applied). Please, provide in the PDD an accurate reference to the CDM methodology used.	22	Response #1. The proposed JI project determines its baseline and exercises its monitoring with the elements of ACM0006, rather than the totality of this methodology. It is allowed by the paragraph 21 of the "Guidance on criteria for baseline setting and monitoring, ver.2", namely as JI specific approach for baseline setting and monitoring. The most recent valid version of ACM0006 is version 11. It has been added into the PDD.	Conclusion on response #1. Please, take into account that the most recent valid version of the methodology ACM006 is version 11.2.0. Also, please, take into consideration that the recent valid of "Guidance on criteria for baseline setting and monitoring" is version 3.
		Response #2. The mentioned methodology and guidance have been updated. The updates in ACM0006 ver.11.2.0 won't make any impact on the proposed project activity. The Guidance on criteria for baseline setting and monitoring ver.3	Conclusion on response #2. Based on the corrections made, the issue is

		has been referred to in the PDD. Section D.1. has been revised according to the request from the determination team.	closed.
CL 04. Two different CDM methodologies were mentioned in the section B.1. to identify the baseline: ACM0006 and ACM0012. Please, clarify.	22	Response #1. The referred methodology is ACM0006, version 11. The methodology title of ACM0012 has been corrected.	Conclusion on response #1. Some corrections have been made; however, please, see also conclusion on response #1 to CAR 07.
		Response #2. The PDD has been revised in line with ACM0006 ver.11.2.0.	Conclusion on response #2. The issue is closed.

CAR 08. Please, note that the step 3a (section B2) contains the wrong reference to the method of financial analysis used in the present project. Please, note that simple cost analysis is not applicable for the present project due to the presence of economic benefits from the reduction of the fuel costs. Actually the method used in the present project is comparison analysis but referred incorrectly by the developer as the simple costs analysis. Please, correct.	28	The incorrectly referred simple cost analysis has been replaced by investment comparison analysis. The PDD has been revised.	OK. The issue is closed.

CAR 09. Please, note that the *Guidance for the Assessment of Investment analysis* requires "Input values used in all investment analysis should be valid and applicable at the time of the investment decision taken by the project participant." Therefore application of the 2010 bonds yields in the present project is not acceptable bearing in mind that investment decision has been made in 2008. Please, note that while there were no new issues of Eurobonds by Ukrainian government between 2007 and 2010 the earlier issues were traded on the markets during that period so the Eurobonds yields for spring 2008 are available and would serve the better basis for deriving of the discount rate. For example as of 14/04/2008 the YTM for 2013 Ukrainian Sovereign Eurobonds has been 5,85%. Source: http://www.kommersant.ua/doc.html?DocID=882263&IssueId=46900 This yield may be modified as suggested by the Developer in order to derive the proper discount rate for the project. But pay attention that Ukrainian Eurobonds are denominated in USD, thereby US inflation rates should be used for adjustment instead of those of Eurozone. For example the average US inflation	36 (a)	Response #1. The calculation of the discount rate has been revised with better data sources which are available at the time of the investment decision taken at the beginning of 2008. The benchmark rate can be calculated as the sum of two factors, the required rate of return on risk-free investments plus a project-specific risk factor adjustment. A minimum rate of return not including project specific risks is given by the yield on 2013 Ukrainian Sovereign Eurobonds, which was 5.85% at April 2008. The Ukrainian Sovereign Eurobonds are dominated by US dollar. Ukraine had to withdraw another Eurobond issue due to the high yield. In order to correct for inflation, the average US inflation index for the period during 1993-2007 was applied, which was 1.0265%. Due to the lack of data for similar projects in Ukraine the risk factor adjustment can be identified only on the basis of expert opinion. Based on a conservative approach we can estimate the risk factor adjustment to be 8%. The benchmark figure is therefore $(1.0585 * 1.08 / 1.0275) - 1 = 13.16\%$.	Conclusion on response #1. Please, note that $(1.0585 * 1.08 / 1.0265) - 1 = 11.36\%$. Please, re-check your calculations.

index for the period of 1993-2007 has been 1,0265. Source: http://www.bls.gov/cpi/home.htm		Response #2. The calculation of the discount rate has been revised based on the investment condition of the beginning of 2009. The Eurobonds by Ukrainian government at Autumn 2009, i.e. 19 Sep 2008, is 7,73%. The selected period which is referred to calculate the average US inflation index is 1993-2008. During this period, the US inflation index is 102.42% in average. The risk factor adjustment is estimated to be 8%. The benchmark figure is therefore (1.0773 * 1.08 / 1.0242) - 1 = 13.60%.	Conclusion on response #2. OK, but I highly suggest to eliminate the following sentence in sub-step 3b due to its confusing content: "5.85% is conservative since at the time the investment decision was taken in early 2008 when the Eurobond market was effectively closed for Ukraine.
		Response #3. The sentence "5.85% is conservative since at the time the investment decision was taken in early 2008..." has been eliminated from the PDD sub-step 3b.	Conclusion on response #3. The issue is closed.

CAR 10. Among other inputs the Developer is applying the property tax at the rate of 2,2%. Please, clarify the source of this input and provide the reference to the relevant law of Ukraine in the PDD.	28	Response #1. It has been confirmed that there is not property tax in Ukraine. Thus, the property tax has been removed from the financial model.	Conclusion on response #1. Please, note that this item is still present in your calculations. Please, remove.
		Response #2. The property tax in the financial model has been given the value as 0%. PDD has been revised to present the new calculation result of Net Cash Flow.	Conclusion on response #2. Please note that tables 3 and 4 (page22) are referring to property tax 2,2%. Please eliminate.
		Response #3. The reference to the property tax has been eliminated from the tables 3 and 4 of the PDD.	Conclusion on response #3. CAR 10 is closed.

CAR 11. Please, note that on the sheet cash flow baseline in the file related to Investment analysis, the cells e4, e6, e9 contain wrong formulas. The values shall be divided by 6 not 4 as now present.	28	The mistakes in the financial analysis have been corrected.	OK. The issue is closed.
CAR 12. The explanation of the parameter $EF_{FF,y,y}$ indicated in formula (2) of the PDD is missing. Please, provide appropriate description in the section B.	23	The step 1.1 Determine total baseline process heat generation (section D.1 of PDD) has been revised according to the realized practices on site. $EF_{FF,y,f}$ is indicated in formula 1 and explained in section B.1 and section D.2.	Based on the explanation received, the issue is closed.
CAR 13. Please, provide the interpretation of the abbreviation "SWDS" in the PDD.	23	SWDS is the abbreviation of solid waste disposal site. The full item of solid waste disposal site has been addressed in the PDD when SWDS appears first time.	CAR 13 is closed due to the amendments made in the PDD.
CAR 14. Two different parameters ("Conservativeness factor" and "Fraction of methane captured at the SWDS and flared, combusted or used in another manner") are denoted with the same symbol "f" in the PDD and Excel file. Please, correct.	23	The conservativeness factor to $EF_{CH4,BF}$ has been revised as f_{CH4} in PDD and Excel file.	The issue is closed based on the corrections made in the PDD and Excel file.

| CL 05. A number of alternatives were considered to establish baseline. However, H3 alternative ("The continuation of heat supplied from existing natural gas boilers. The existing boilers would operate at the same conditions as those observed in the most recent period.") apparently is not realistic and credible one, as the capacity of the existing boilers is not enough to supply the needed amount of heat to MFP and OEP. Please, clarify. | 23 | Alternative H3 has been removed from the alternatives of heat generation. Table 1 of PDD has been revised correspondingly. | Required corrections have been made. CL 05 is resolved. |

CAR 15. *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* was used to determine CO_2 emission factor for fuel. The source mentioned is irrelevant as the document is not approved in Ukraine yet. Please, use the data form *IPCC 1996 Guidelines for National Greenhouse Gas Inventories* and take it into consideration for ERUs calculations.	23	Response #1. IPCC 1996 address the carbon emission factors for natural gas as 15.3 ton C/TJ. (Source: Table 1-4 of Volume Energy, IPCC 1996). It can be switched to 56100 kg CO_2/TJ which is addressed in IPCC 2006. Therefore, the emission factor for natural gas in the PDD keeps same. IPCC 1996 has replaced IPCC 2006 as the reference to determine the emission factor of fossil fuels. Response #2. The IPCC 1996 does not give a clear value of DOC_f parameter. The justification of the choice of data of DOC_f parameter is revised.	Conclusion on response #1. As *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* is not approved yet, please, also revise the reference to *IPCC 2006* in the table on DOC_f parameter (fraction of degradable organic carbon that can decompose). Conclusion on response #2. The issue is closed based on the amendments made.

CAR 16. Please, provide the justification of the choice of data for **NCV$_{i,y}$** parameter applied. Please, clarify if the value 8000 kcal/nm^3 ("Inter-sectoral values for heat boilers in Ukraine" approved by the State Committee on Energy Saving, Order #46 dated 07/05/2001) can be applicable for the baseline period 2008-2010.	23	The value 8000 kcal/nm^3 of NCV$_{i,y}$ is applicable for the period during 2006-2008. The NCV of the natural gas consumed by the project varies between 8,108–8,377 kcal/m^3. In order to obtain a conservative baseline emission, 8000 kcal/nm^3 was applied in the financial analysis of the project activity. After the revision of section D.1 of PDD, the NCV of natural gas is not useful to determine the baseline emission anymore.	Based on the amendments made, CAR 16 is closed.
CAR 17. Two different symbols (Φ and φ) are used to denote "Model correction factor to account for model uncertainties". Please, correct.	23	The symbol φ should be used. Sections B.1 and D.2. of the PDD have been corrected accordingly.	The issue is closed due to the corrections made.

CAR 18. Please, provide the justification of the choice of data for the parameters "Model correction factor to account for model uncertainties" and "Fraction of degradable organic carbon that can decompose" or provide clear and accurate reference.	23	Response #1. The justifications of the choice of φ and DOC_f have supplemented in the section B.1 of the PDD. Response #2. The justification of the choice of data of DOCf parameter is revised.	Conclusion on response #1. Some amendments have been made; however, please, see response #1 to CAR 15. Conclusion on response #2. The issue is closed.
CAR 19. It is stated in section B of the PDD that the value of Methane correction factor equals to 1 can be applied because the solid waste disposal sites identified as the "anaerobic managed solid waste disposal sites". At the same time, landfill site "is ranked as "unmanaged solid waste disposal site" (see Annex 2). Please, correct.	23	The landfill site belongs to the category of anaerobic managed solid waste disposal site. The relevant description in Annex 2 has been revised.	Based on the explanation received and amendments made in the PDD, the issue is closed.
CAR 20. The default value 20 for husk is applied for fraction of degradable organic carbon in the waste type *j*. Please, provide clear and accurate reference and indicate if this value was used for wet or dry waste.	23	Considering DOC_f of husk is not given by Table 2.4 and 2.5, Volume 5 of IPCC 2006, a more appropriate reference is cited to determine the of DOC_f husk. The applied value is corrected as 39. The justifications of the choice of DOC_f have supplemented in the section B.1 of the PDD.	The issue is resolved due to amendments made in the PDD.

CAR 21. The justification of the default value 0.2 for decay rate for the waste type j is absent in the Annex 2 (referred to in the PDD, section B.1). Please, provide appropriate justification and traceable reference.	23	The justifications of the choice of k_j have been supplemented in section B.1 of the PDD.	CAR 21 is closed due to the information added to the PDD.
CAR 22. PDD states that ex-ante value=0 is used for the parameter "Fraction of methane in the SWDS gas". However, the value 0.5 is used in the Excel file. Please, provide appropriate clarification.	23	The fraction of methane in the landfill gas is abbreviated as F, which has the default value of 0.5. There is another parameter missed in the PDD, which is the fraction of methane captured at the SWDS and flared, combusted or used in another manner (abbreviated as f). It will be monitored annually and has a default value of 0. PDD has been corrected.	Based on the amendments made, the issue is closed.
CAR 23. Two key parameters used to establish the baseline are not included in the tabular form in the section B.1: E_f - Baseline indicator of the natural gas consumption of per tone of steam; $FF_{BL,HG,y,f}$ - Baseline fossil fuel demand for process heat in year y. Please, make corresponding corrections.	23	The step 1.1 determine total baseline process heat generation (section D.1 of PDD) has been revised according to the realized practices on site. Relevant parameters have been inserted in section B.1 and section D.2.	The issue is closed.

CL 06. Please, clarify how CO_2 emissions from surplus biomass can potentially lead to changes of carbon pools in the LULUCF sector (please, see section B.3. of the PDD).	23	As described in Figure 3 in PDD, the project activity will consume the husk generated from the oil production exclusively. The project will not import any biomass or biomass residuals out from the project boundary. The consumed husk will be disposed in the landfill site in absence of the project. With respect to the *General guidance on leakage in biomass project activities*, there is not any Shifts of pre-project activities, or emissions related to the production of biomass, or competing uses for the biomass in the project. Therefore, the project will not lead any changes of carbon pools in the LULUCF sector.	CL 06 is resolved based on the explanation received.
CL 07. Please, clarify how CO_2 emissions from the transportation of biomass residues are considered in the ERUs calculations.	43	According to the ACM0006, in case where the biomass residues are not generated directly at the project site, project participant shall determine CO_2 emissions resulting from transportation of the biomass residues to the project plant. In the proposed project activity, all the consumed husk is generated at the project site. Therefore, CO_2 emissions from the transportation is not considered in this project.	The issue is closed due to the explanation provided.
CAR 24. Please, indicate if the person/entity mentioned in the section B.4. of the PDD is also a project participant listed in annex 1 as per *Guidelines for users of the JI SSC PDD form* and *the F-JI-SSC-Bundle, version 04.*	21	The PDD developer, Greenstream Network is not a project participant listed in Annex 1 of the PDD. This information as well as Greenstream Network contact information has been added to the Section B.4. of the PDD.	The issue is close based on the information added.

CAR 25. Please, state the expected operational lifetime of the project in years and months as per *JI SSC PDD form and the F-JI-SSC-Bundle, version 04.*	34 (a)	Section C.2. of the PDD has been corrected accordingly. The expected operational lifetime is 20 years (240 months).	The issue is closed due to the amendments made.
CAR 26. Please, state the length of the crediting period in years and months as per *JI SSC PDD form and the F-JI-SSC-Bundle, version 04.*	-	Section C.3. of the PDD has been corrected accordingly. The length of the crediting period of 10 years (120 months) has been stated, including 3 years and 3 months (39 months) of the Kyoto period and 6 years and 9 months (81 months) of the post-Kyoto period.	CAR 26 is closed based on the amendments made in the PDD section C.3.
CL 08. Please, provide documented evidence to confirm that the proposed project is eligible as a SSC project (that *the total installed capacity of the co-generator is less than 45 MWthermal.)*	51	According to the Operation Chart of the husk boiler, the steam flow rate is 16t/h and the saturated steam pressure is 24 kgf/cm^2 when boiler works with full-load. Applying the calculator developer by SpiraxSarco, the heat rating of the husk boiler is 8.20 MW when it works with full-load. Therefore, the total heat rating of the project is 16.40 MW, less than 45 MW$_{thermal}$. The Operation Chart of the husk boiler and the calculation process have be submitted to the auditor.	The materials provided are found satisfactory and sufficient to resolve the issue.
CAR 27. All formulae regarding monitoring and their description must be included in the section D.2 of the PDD as per *Guidelines for users of the JI SSC PDD form* and *the F-JI-SSC-Bundle, version 04.* Please, make corresponding corrections.	36 (f)	All formulae regarding monitoring and their description have been transferred from Section B.1 to Section D.1.	The issue is closed.

| CAR 28. Two key parameters used to establish the baseline are missing in the section D.2: Ef - Baseline indicator of the natural gas consumption of per tone of steam; $FF_{BL,HG,y,f}$ - Baseline fossil fuel demand for process heat in year y. Please, make corresponding corrections. | 36 (a) | The step 1.1 Determine total baseline process heat generation (section D.1 of PDD) has been revised according to the realized practices on site. Relevant parameters have been inserted in section B.1 and section D.2. | Based on the amendments made, the issue is closed. |

CAR 29. To calculate emissions in the project $NCV_{i,y}$ (the same as in the baseline) parameter is stated to be determined once and available already at the stage of determination regarding the PDD. However, this parameter can not be fixed ex-ante and must be monitored in the project activity. Please, make corrections in the monitoring plan. Please, indicate which value of data applied for ex-ante emissions calculation.	36 (d)	Response #1. After the revision of section D.1 of PDD, the NCV of natural gas is not useful to determine the baseline emission anymore. The NCV of husk ($NCV_{BR, n, e}$) will be applied to calculate H_{husk} (formula 3) and $PE_{FF,y}$ (formula 8). The NVC of husk will be monitored though the monitoring period.	Conclusion on response #1. Please, revise the response #1 to CAR 29 because there is inconsistency concerned with information provided on NCV ($NCV_{husk,y}$, $NCV_{i,y}$, $NCV_{BR,n,y}$, and $NCV_{BR,n,e}$) in formulas, in the table of parameters, and in your response #1. Please, pay special attention to the name of

		Response #2.	Conclusion on response #2.
			the parameters and to the numbering of the formulas which are referenced.
		The NCV of husk in PDD has been renamed as $NCV_{husk,y}$. The referred Net caloric value of biomass residue ($NCV_{BR,n,y}$) has been given the same symbol as $NCV_{husk,y}$ because the consumed biomass residue in the project activity is husk.	The issue is closed based on the amendments made.
		$NCV_{i,y}$ is the Net Caloric value of the fossil fuel type i and is not relevant with husk.	
CAR 30. Table 4 of ACM0006 methodology is referred to in the Section D.2 for CH_4 emission factor for the combustion of biomass residues in the project activity. Please, note that this source does not contain CH_4 emission factor for husk. Please, correct and provide appropriate justification for the value applied.	24	The appropriate justification has been added into the PDD, which is the Table 2.2, Volume 2 of IPCC 2006.

According to Table 2.2, 30 is default CH_4 emission factor of various solid waste, including municipal waste (non-biomass fraction and biomass fraction), industrial wastes, wood/wood waste. It is reliable that 30 is applied as default CH_4 emission factor of husk. | The issue is closed based on the explanation received. |

| CAR 31. Please, provide the justification of the choice of data for the parameters "conservativeness factor" in the section D.2. of the PDD. | 36 (b)(ii) | The appropriate justification has been added into the PDD. The assumed uncertainty of the default CH4 emission factor of husk (30) is 300%. According the Table 5 of ACM0006, when the assumed uncertainty is greater than 100, the conservativeness factor should be 1.37. | Based on the justification provided, CAR 31 is closed. |

| CAR 32. The statement "Data will be archived in form of electronic/paper" is irrelevant in the row "Justification of the choice of data or description of measurement methods and procedures (to be applied)" for the parameter quantity of fuel type i combusted in process j during the year y. | 36 (b)(ii) | Response #1.

The statement of "Data will be archived in form of electronic/paper" has been moved to the cell of "any comment". The PDD has been revised. | Conclusion on response #1.

The irrelevant information is deleted from the row "Justification of the choice of data or description of measurement methods and procedures (to be applied)"; but instead of the deleted information, necessary information is not provided. Please, fill out the abovementioned row with required justification. |
| | | Conclusion on response #2.

More justification has been supplemented D.2. (iii). | Conclusion on response #2. |

			CAR 32 is closed based on the information provided.
CAR 33. *Ex-ante* value of the quantity of electricity consumed by the project relevant activity during the year *y* sated in the PDD (3.8 MWh/yr) is not equal to the one used in the Excel calculations. Please, correct.	46	The *ex-ante* value of $EC_{p,y}$ has been corrected as 1,084 MWh/a. The determination procedures of $EC_{p,y}$ is described in Spreadsheet *Determination of ex-ante EC*, which has been submitted to auditor. The equipments list installed in the boiler room has been submitted as well. Regarding the monitoring of $EC_{p,y}$, a calculation is applied. There is only one meter installed to record the electricity consumption of all the equipments in the boiler room with total installed capacity of 707.54 kW. Among it, the installed capacity of the electroequipments related to the project activity is 420.1 kW. Therefore, the actual electricity consumption by the project during the crediting period can be calculated as: $$EC_{p,y} = EC_{boiler\_roon,y} * \frac{420.1}{707.54}$$ PDD and ER calculation have been revised.	The issue is closed.
CAR 34. It was observed during site visit that the net caloric value of biomass residue was monitored only ones. Please, provide documented evidence to confirm that NCV is monitored every six months.	36 (e)	Husk NCV (parameter $NCV_{BR, n, e}$) will be checked at least once per 6 months by an independent certified laboratory (Sevastopol laboratory #1 or other). The evidence has been submitted to AIE as per Order #130.	CAR 34 is closed due to the documentation provided.

CAR 35. *IPCC 2006 Guidelines for National Greenhouse Gas Inventories* is referred to determine NCV in the section D.3. The source mentioned is irrelevant as the document is not approved in Ukraine yet. Please, use the data form *IPCC 1996 Guidelines for National Greenhouse Gas Inventories*.	36 (b)	After the revision of section D.1 of PDD, the NCV of natural gas is not useful to determine the baseline emission anymore. The NCV of husk ($NCV_{BR,n,y}$) will be applied to calculate H_{husk} (formula 3) and $PE_{FF,y}$ (formula 8). Thus, the NCV of natural gas has been deleted from section D.3. IPCC 1996 has replaced IPCC 2006 as the reference to determine the NCV and CO_2 emission factor of fossil fuels.	The issue is closed.
CAR 36. Please, see quality control and quality assurance for NCV: "Paralleled with 1.000 Eco-standard-service test done by Sevastopol Laboratory, the value of this data will be compared with the historical record and the IPCC default value (11.6 TJ/Gg)" Please, clarify in the PDD further algorithm for quality control and quality assurance procedure (what measure will be undertaken if these values differs significantly).	36 (f)(v)	To keep the result conservative, the highest value between a certain test result, the average value of the historical record and the IPCC default value will be applied in the calculation of the project emission. The relevant description has been added to Section D.3 of the PDD.	The issue is closed based on the amendments made.

| CL 09. Please, clarify what is meant in the section D.3 for $Q_{his,y}$ parameter: ...accuracy rate is 1.1. | 36 (a) | Response #1.

The accuracy of $Q_{his,y}$ is ±0.5%. PDD has been revised. | Conclusion on response #1.

Please, correct the name of the parameter. There is no parameter $Q_{his,y}$ in the PDD, only - $Q_{husk,y}$.

Also the determination team has not found the accuracy of this parameter. Please, clarify/ correct. |
| | | Response #2.

The parameter of $Q_{his,y}$ is not applicable for the PDD any more because of the revision of the calculation method of emission reduction. $Q_{his,y}$ has been removed from section D.3. | Conclusion on response #2.

Due to the corrections made, the issue is closed. |

CL 10. It is stated in the section D.3. of the PDD that steam meters installed in steam pipe of the husk boilers will be calibrated regularly according to manufacture's recommendation. However, no confirmatory records were provided onsite. Please, submit documented evidence.	36 (i)	The steam generation of the project activity will be calculated as per formula 2 in the PDD. Thus, the monitoring of the steam generation does not require a steam meters. Section D.3 has been revised.	The issue is closed.
CAR 37. Please, add to the PDD section D a flowchart demonstrating data flow from the meter to the data totals for each parameter to be monitored.	36 (e)	Response #1. A monitoring flow chart has been inserted into section D.4 of PDD. Response #2. A monitoring flow chart (Figure 4) has been inserted into section D.3, rather than section D.4.	Conclusion on response #1. Monitoring flow chart (Figure 4) has been inserted into the PDD section D.3, not D.4. Only Monitoring structure (Figure 5) has been inserted into the PDD section D.4. Conclusion on response #2. The issue is closed.

CAR 38. Please, indicate if the person/entity mentioned in the section D.5. of the PDD is also a project participant listed in annex 1 as per *Guidelines for users of the JI SSC PDD form and the F-JI-SSC-Bundle, version 04.*	36 (b)(i)	The PDD developer, Greenstream Network is not a project participant listed in Annex 1 of the PDD. This information as well as Greenstream Network contact information has been added to the Section D.5. of the PDD.	The issue is closed based on the amendments made.

| CAR 39. Please, specify in the monitoring plan the procedures to be followed if expected monitored data are unavailable. | 36 (b)(iii) | Response #1.

The description of the procedures to be followed have been added to the PDD Section D.3. | Conclusion on response #1.

In the section D.3 (as indicated in project developer's response) there is no clear description of the procedure to be followed if expected monitored data are unavailable. Please, clarify / correct. |
| | | Response #2.

As a part of QC and QA measurement, the possibility of the systemic error and operational error of the monitoring plan has been analyzed carefully. The cross-check and the back-up plan of the monitoring parameters have been supplemented in the PDD in case some parameters are not available for the monitoring. | Conclusion on response #2.

Due to the amendments made in the PDD section D.3, the issue is closed. |

| CAR 40. Please, explicitly and clearly distinguish in the section D of the PDD which of the parameters to be monitored:
(i) 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) 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) are monitored throughout the crediting period. | 36 (d) | The tables of parameters as to monitoring have been distinguished in the Section D.2 correspondingly. | CAR 40 is closed due to the modification made in the PDD section D.2. |

CAR 45. Please, submit any documented instruction which indicates that the data monitored and required for verification are to be kept for two years after the crediting period as per *JI determination and verification manual.*		Response #1. The project developer has submitted Order #131 to auditors during the on-site determination. Order #131 has stated that the monitoring data will be saved for two years after the crediting period.	Conclusion on response #1. Please, provide the copy of Order #131 to the determination team. Also, please, mention (in the PDD section D.1) the availability of Order #131 or refer to the Order.
		Response #2. The electronic version of Order #131 has been submitted to the determination team.	Conclusion on response #2. Based on the documentation provided, CAR 45 is closed.
CAR 41. Annex B is referred to in the PDD (page 42). However, there is no such Annex in the PDD. Please, correct	36 (m)	This is a misprint. Annex 2 should be referred. PDD has been corrected correspondingly.	The issue is closed.

CAR 42. The estimated baseline emissions BEy (Table 10a) for 2009-2011, 2013-2018 are not equal to the sum of $BE_{heat,y}$ and $BE_{BR,B2,y}$. Please, correct.	36 (f) (vi), 45	Response #1. The minor differences between the BE_y and the sum of $BE_{heat,y}$ and $BE_{BR,B2,y}$ are because of the rounded calculation result. The minor differences stay at the level of ±1, which can be deemed acceptable. Response #2. The inconsistence was caused by the rounding issues. The figures in the Table 10a have been revised.	Conclusion on response #1. The differences between the BE_y and the sum of $BE_{heat,y}$ and $BE_{BR,B2,y}$. Conclusion on response #2. The issue is closed due to the corrections made.
CAR 43. Please, prepare the section E.6 of the PDD in accordance with *Guidelines for users of the JI SSC PDD form and the F-JI-SSC-Bundle, version 04*. Please, use correct tabular format.	45	The tables in the Section E.6. of the PDD have been corrected accordingly.	The issue is closed.

| CAR 44. Please, clarify in the PDD if any comments on the project have been received. Please, state the nature of comments and the description on whether and how the comments have been addressed. | 49 | Response #1.

The information as to comments on the project has been added in the PDD. Also, in the supporting documentation, please find the documentary evidence on the information as to the comments on the project. | Conclusion on response #1.

PDD section G.1 provides the following sentence "Since the project has a positive impact through environmental and the city's social improvement, the project got only a positive feedback". Please, clarify how you can confirm this statement.

Also, please, take into consideration that you may refer to the |

			Letter #755-14/ ZMZH dated 07/10/2011 provided to the verification team.
		Response #2.

The statement is confirmed by the Letter #755 ZMZH dated 07/10/2011 which was provided to the verification team where the information on stakeholder's comments is given. The Letter #755 ZMZH dated 07/10/2011 has been referred in the PDD Section G.1. | Conclusion on response #2.

The issue is closed based on the information added to the PDD. |
| **CAR 46.** Please provide a detailed theoretical description of the baseline in a complete and transparent manner. This is the requirement of Guidelines for Users of JI PDD Form for SSC projects | 23 | The detailed description of the baseline is added to the Section B of the PDD. | The issue is closed based on the information added to the PDD. |
| **CAR 47.** Please, provide contact data of Mr. Davydov. | - | Contact details of PrJSC Modified Fats Factory were added to the Annex 1 of the PDD. | The issue is closed due to the corrections made in the PDD |