



Industrie Service

Final Determination Report

Determination of
“Utilization of sunflower seed husks for
steam and power production at the oil
extraction plant OJSC “Kirovogradoliya”
JI-Project

Ukraine

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Report Title:		Utilization of sunflower seed husks for steam and power production at the oil extraction plant OJSC "Kirovogradoliya", JI Project, Ukraine		
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<p>Summary:</p> <p>The Certification Body "Climate and Energy" of TÜV Industrie Service GmbH TÜV SÜD Group has been ordered by the Ukrainian company OJSC "Kirovogradoliya", based in Kirovograd, to determine the above mentioned project in the context of the Austrian CDM/JI Programme.</p> <p>The determination of this project has been performed by document reviews, interviews by e-mail and on-site inspections, audits at the project locations and interviews at the offices of the client.</p> <p>As the result of this procedure, it can be confirmed that the submitted project documentation is in line with all requirements set by the Marrakech Accords and the Kyoto Protocol.</p> <p>In our opinion, the project meets all relevant UNFCCC requirements for JI.</p> <p>Four outstanding issues are beyond the time horizon of the determination and must be considered as being outstanding.</p> <p>Additionally the assessment team reviewed the estimation of the projected emission reductions. The team confirms that the indicated amount of 227.720 tons CO₂ (to be issued as ERUs) in the provided crediting period (years 2008 – 2012, first commitment period under the Kyoto Protocol) represents a conservative estimation using the assumptions given by the project documents.</p>				
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Abbreviations

AAUs	Assigned Amount Units
CAR	Corrective action request
CDM	Clean Development Mechanism
CR	Clarification request
DP	Determination Protocol
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
ERU	Emission Reduction Unit
GHG	Greenhouse gas(es)
JI	Joint Implementation
KP	Kyoto Protocol
MP	Monitoring Plan
MS	Management System
OE	Operational Entity
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual



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1 INTRODUCTION

1.1 Objective

The Ukrainian company OJSC “Kirovogradoliya”, located in Kirovograd, has commissioned TÜV Industrie Service GmbH TÜV SÜD Group - Carbon Management Service - to make a determination of the “Utilization of sunflower seed husks for steam and power production at the oil extraction plant OJSC “Kirovogradoliya””, JI Project, Ukraine. The determination serves as a design verification and is a requirement for all JI projects submitted to the Austrian CDM/JI Programme. The purpose of a determination is to have an independent third party assess 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 validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs - in the first commitment period under the Kyoto Protocol 2008 - 2012).

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

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document (PDD), the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of emissions reductions units (ERUs).

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

1.3 GHG Project Description

The Ukrainian JI project “Utilization of sunflower seed husks for steam and power production at the oil extraction plant OJSC “Kirovogradoliya”” comprises the reconstruction of the energy supply system of OJSC “Kirovogradoliya” so that it will be mainly based on biomass (sunflower seed husk) utilization in future. Thereby GHG emissions from usually applied fossil fuels (natural gas) to produce heat and process steam and GHG emissions from electricity supply from the local grid are avoided as well as emissions from disposal of husk to the local municipal landfill.

The project is submitted to the Austrian CDM/JI Programme for evaluation.

The project started in March 2005 (defined as date of starting the PDD development). The implementation of the project will be finished in March 2007. The crediting period for the project “Utilization of sunflower seed husks for steam and power production at the oil extraction plant OJSC “Kirovogradoliya”” will start January 1st, 2008 and last till December 31st, 2012 (correspondent to the first crediting period of the Kyoto protocol).

The project documentation has been developed by Scientific Engineering Centre (SEC) Biomass, located in Kiev assisted by the project owner, OJSC “Kirovogradoliya”, located in Kirovograd.

The generated ERUs will be supplied by OJSC “Kirovogradoliya” in Ukraine.

2 METHODOLOGY

In order to ensure transparency, a determination protocol was customised for the project, according to the Validation and Verification Manual (VVM). The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The determination protocol serves the following purposes:

- It organises, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent determination process where TÜV SÜD has documented how a particular requirement has been validated and the result of the determination.

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

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



Determination Protocol Table 1: Mandatory Requirements			
Requirement	Reference	Conclusion	Cross reference
<i>The requirements the project must meet.</i>	<i>Gives reference to the legislation or agreement where the requirement is found.</i>	<i>This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the determination report. O is used in case of an outstanding, currently not solvable issue, AI means Additional Information is required.</i>	<i>Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent determination process.</i>

Determination Protocol Table 2: Requirement checklist				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
<i>The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in six different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found.</i>	<i>Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.</i>	<i>This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification or Additional Information is used when the independent entity has identified a need for further clarification or more information.</i>

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



2.1 Review of Documents

The project participants submitted a first PDD comprising baseline study and monitoring plan in April 2005 (first submission April 22nd). A review for all these documents has been performed in order to identify all issues for discussion during the follow-up interviews on-site and by phone or email. Subsequently revised project documentation with additional background documents related to the national regulations in the energy sector in Ukraine, requirements for stakeholder consultation and EIA and information concerning social and environmental impacts of the project has been submitted to the validator in May 2005 which have undergone renewed document review. Final documents have been submitted June 6th 2005.

2.2 Follow-up Interviews

In the period from April 29th, 2005 until April 30th, 2005 TÜV SÜD performed interviews with project participants and stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of SEC “Biomass” as well as of OJSC “Kirovogradoliya” and additional persons from the municipal landfill which are responsible for the waste management have been interviewed face-to-face or via e-mails.

The main topics of the interviews are summarised in Table 1. The complete and detailed list of all persons interviewed will be enclosed in Annex 2 as Information Reference List.

Table 1: Interview topics

Interviewed organisation	Interview topics
SEC “Biomass”	Project design, baseline, monitoring plan, environmental impacts, stakeholder comments, additionality, monitoring procedures, calibration of the measurement equipment, documentation, archiving of data
OJSC “Kirovogradoliya”	Baseline, monitoring plan, environmental impacts, stakeholder comments, approval of the projects, environmental impacts, stakeholder comments, national and sectoral policy; approval procedures
Municipal Landfill of Kirovograd	Open issues concerning baseline assumptions and monitoring concept, waste management, waste composition, operating time, operating permit, handling of sunflower seed husk delivery; type of the landfill, incorporated materials, age, depth and consistency of the municipal landfill of Kirovograd



2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified in order to achieve a positive conclusion during the assessment process. Clarification Requests raised by TÜV SÜD have been resolved totally by the revision of the project documentation submitted May and finally in June 2006. Furthermore additional documents have been submitted separately in order to provide the required evidences. To guarantee the transparency of the determination process, the concerns raised and the responses given are summarised in chapter 3 below. The whole process is documented in more detail in the determination protocol in Annex 1.

3 DETERMINATION FINDINGS

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

- 1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the Determination Protocol in Annex 1.
- 2) Where TÜV SÜD has identified issues that needed clarification or that represented a risk to the fulfilment of the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Annex 1.

3.1 Project Design

3.1.1 Findings

A project documentation consisting of a baseline study and a monitoring plan as well as information concerning the requirement of an EIA study and of stakeholder consultations has been submitted in April 2005 to the audit team.

The project's spatial boundaries of the project are herein described in chapter D 1.3 of the PDD. The project boundaries include hereby three types of emission reductions: Carbon dioxide emission reduction through electricity and steam generation by using biomass as fuel source instead of natural gas, substituting electricity supplied from the grid by excess of electricity produced for own demands and avoiding methane emissions from sunflower husk seed delivered to the municipal landfill site without project realisation.

The employed technology is a new technology in the host country as the equipment (husk biomass boilers) is especially designed for the project purpose. The single components of the new biomass boilers are based on state of the art technology. It is, moreover, not likely that the project technology will be substituted by a more efficient technology. The installation of the biomass boilers and additional required equipment are standard procedures and the staff is trained, or will be trained and will hence have the required experience in operating such a system.

During the visit on site it was reported that staff will receive on the job training by the equipment provider and involved technical institutions.

Ukraine has not appointed a national focal point to UNFCCC so far. The date of ratification of the Kyoto Protocol was April 12th 2004. A national focal point will be appointed soon. The responsible person in the future is already nominated.

The project is approved verbally by the responsible national Ukrainian government representatives, namely the Ministry of Environmental Protection of Ukraine and State Committee of Ukraine for Housing and Municipal Economy, and by the responsible regional/local authorities. But no formal, written letter of approval for the project as a whole is available up to now.

The approval of the Austrian government is not existent in writing, but the choice of the project in a tender (on basis of the project's PIN) can be seen as an indication of such an approval under the pre-condition that the project receives a positive validation .

The project starting date is defined with March 2005. A concrete date (March 1st 2005 would have been better but this point does not influence the final determination opinion.

The operational lifetime of the project is displayed with 20 years. So the operational lifetime of the equipment will exceed the crediting period considerably.

The crediting period is defined as being from 2008-2012 in accordance with the first commitment period defined in the Kyoto Protocol.

3.1.2 Issued CARs/CRs

Outstanding Issue No. 1:

Documents demonstrating the approval of the project from both countries (Ukraine and Austria) have to be presented to the audit team.

Outstanding Issue No. 2:

National guidelines and procedures (G&P) are currently available for Austria (and therefore also for the the Austrian CDM/JI Programme) but not for JI projects in Ukraine. It has been indicated that these will be published until the beginning of 2006.

Outstanding Issue No.3:

No national communication has been submitted by Ukraine until now.

Outstanding Issue No.4:

The host Party has not in place a national registry in accordance with Article 7, paragraph 4 of the Kyoto Protocol.

Corrective Action Request No.1:

The information concerning the project boundaries has to be corrected, elaborated more detailed and illustrated via figures.

The equipment inside project boundaries should be specified (number, type, technical specification) for the baseline as well as the project case. It should be clearly described which effects will be taken into account and which not. The own consumption of the new equipment has to be subtracted before calculating the emission reductions.



In the illustration of the project boundaries all sites (also the landfill site) and connections (to the electricity grid, natural gas grid and, if existing, heat grid should be demonstrated).

Response:

The required correction and needed clarification is included in the Final PDD (chapter D.1.3). Project boundaries, equipment and grid connections are illustrated via graphs and figures. The equipment is specified and all processes relevant for GHG emissions are explained clearly. Additional information is given in the revised technical description of the project.

Additional information required No. 1:

The operational lifetime of the intended equipment in project case is deemed to outlast the crediting period manifestly. This information should be included in the PDD and in the additional technical description.

Response:

The required information was added to chapter A.5.1 of the PDD. The operational lifetime is displayed as 20 years.

Clarification Request No. 1:

It should be described more detailed in the project documentation which company will be responsible for the new equipment and which company will be responsible for the future training activities and the education of the staff. Which role has the supplier of the new equipment in this process? Which company is responsible for the maintenance? Which measures are planned for the training of the staff? Which is the role of the project developer?

Response:

The required information was added in detail to the final PDD.

Additional Information required No. 5:

The project starting date should not lie in the future as first measures in the context of the project already were in preparation during the on-site visit. The operational lifetime of the equipment should be estimated more realistic.

Response:

The starting date was corrected (March 2005, start of PDD development). Additional retraceable and transparent information concerning the operational lifetime of the equipment was added to the PDD.

Clarification Request No. 9:

It should be mentioned that a project management manual will be developed until the starting date of the crediting period at the latest with certain information on the project management, monitoring responsibilities, training courses etc.. Also written working instructions should be developed until this date. First examples therefore should be integrated in the PDD (if already available).

Response:

The project management manual will be installed in combination with the ISO 9000 certification (planned for 2006).

3.1.3 Conclusion

The four outstanding issues are beyond the time horizon of the determination and must be considered as being outstanding. Otherwise the required clarifications and corrections have been solved, additional information has been added to the PDD and therefore the project fulfils the belonging criteria set for the approval of JI-projects.

3.2 Baseline and Additionality

3.2.1 Findings

The discussion and selection of the baseline methodology is overall transparent.

The baseline is established in a project specific manner and refers to the specific fuel (natural gas) and electricity (supplied from the grid) consumption and methane emissions from landfills based on literature values.

The baseline does take into account the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described in a clear and transparent manner and their impact on the baseline and the project risk is evaluated. The description includes economic, legal, political and technological factors.

The discussion and selection of the baseline methodology is considered to be transparent although the project developer does not refer to any specific project type. All data used is specified and documented.

The data level regarding installation specific parameters and operation modes is plant specific whereas emissions factors are obtained from IPPC reports and/or from the Dutch Erupt guidelines (for JI projects).

The baseline represent a likely scenario in the non project case as it conforms to all legal requirements and the prevailing practice in the Ukrainian energy (supply) sector.

The assessment team has found convincing evidence that demonstrates that the project is not a business as usual project.

3.2.2 Issued CARs/CRs

Corrective Action Request No. 2:

The theoretical discussion and selection of the baseline methodology is plausible, but not considered as transparent and complete.

In detail this means:

- The own electricity consumption of the new equipment was not taken into account.
- It is not clearly described whether a sale of produced electricity to the regional grid is possible and envisaged.
- The equipment in baseline case is not described in detail.
- The existence/absence of connections to the regional grids (natural gas, electricity and heat) is not described and discussed in the PDD although this could influence the baseline emissions.
- Evidence for the assumed methane emissions at the landfill site should be submitted to the validator. The procedure of husk deposition at the landfill site should be described. Evidence should be given that the possible combustion of husk seed at the landfill site can be excluded.

Response:

The required corrections and clarifications are included in the revised final PDD and in the annexes A 1- A.2. Additional information was added concerning the consideration of own electricity consumption in the calculations and concerning the specification of the equipment. Selling electricity is excluded due to the own electricity needs of OJSC “Kirovogradoliya”. Sources for calculating methane emissions from landfill site (IPCC good practice guidance) have been added. Literature references are included in the revised PDD.

Additional information required No. 2:

The spatial level of data (sources for example for emission factors, efficiency of equipment etc.) should be explained more detailed.

Response:

The required additional information is included in the revised PDD. Sources of data and information concerning planned future measurements of parameters have been added. All data meanwhile have been sourced.

Additional information required No. 3:

The baseline of the project is not the “business as usual” scenario.

The discussion and determination of the chosen baseline should be elaborated more detailed. Cogent and demonstrative reasons should be given in the PDD (maybe the lifetime of the existing equipment, national legislation etc.) that the continuation of the current practice can be excluded as baseline scenario.

Response:

Additional information concerning repair costs for the existing equipment, results of the technical assessment of the old boiler and requirements of the state authority of Kirovograd and the municipality of Kirovograd have been submitted to the validator and, where necessary, added to the revised PDD to demonstrate that business-as-usual is not the baseline scenario.

A continuation of the current practice is excluded technically and lawfully for the next years.

Corrective Action Request No. 3:

The baselin has to be adjusted in the following items:

- The own electricity consumption of the new equipment must be taken into account in the calculation of the emissions reductions
- Currently no assured evidence is given for the appearance of the described methane emissions of the landfill site. The calculation should be sourced by common available and accepted literature and data.
- It should be checked whether the consideration (and the future monitoring) of transport emissions makes sense for this type of project.
- The baseline scenario (see also CAR 2) in total is not elaborated concrete enough.

Response:

All required corrections and clarifications have been added to the revised PDD and corresponding annexes (see also answers under CR 1. and 2. and AI 2).

Clarification Request No. 2:

The specific significance of factors as relevant national and/or sectoral policy, macro-economic trends and political aspirations (in this case for example the likely cogeneration law and the possible influence on the project) should be elaborated more detailed and a compendium of the implemented considerations should be included.

Response:

The required clarification is given in chapter B.4 “Additionality” of the PDD and the correspondent annexes and appendices (appendix 6).

Additional information required No. 4:

Information/figures concerning the investment comparison analysis should be added.

A detailed cash flow analyses including IRR and NPV and with and without influence of cash inflows from selling ERUs (2008 - 2012) parameters should be presented for the project. Evidence should be given regarding the consideration of JI during the phase of considering project realization alternatives. The sensibility concerning variations of the feed-in tariff also should be demonstrated.

The influence of JI registration should be described and argued more detailed and transparent.

The extended business plan should be added to the PDD.

Response:

All required additional information specified under AI 4 is integrated in the revised business plan of the project (Appendix 1) and in the revised final PDD.

Clarification Request No. 3:

The major risks should be determined and summarized in a separate paragraph.

Response:

The major risks for the project are integrated in the PDD and also considered in the sensitivity study for the project.

Corrective Action Request No. 4:

Further information (literature, data sources, fundamentals etc.), which is available and necessary for the calculations should be added as annexes to the PDD (for example: amount of husk combusted in the last years, amount of mazut used, electricity delivered from the regional grid, source of emission factors et.).

Response:

All required information concerning data and literature sources, formulae, rationales and background data have been added to the revised PDD and related annexes.

3.2.3 Conclusion

All responses given to the indicated CARs/CRs are resolving the belonging issues. All required additional information was added to the PDD directly or in the form of annexes. The project fulfils the criteria on baselines as set for the approval of JI-projects.

3.3 Monitoring Plan

3.3.1 Findings

The project developer has applied a generic monitoring methodology for this type of project. The monitoring methodology does reflect current good practice and is supported by the monitored and recorded data.

All relevant parameters required for the calculation of baseline and project emissions are monitored.

No significant leakage emissions are monitored according to the monitoring plan as there are no emissions to be expected. This approach is deemed to be appropriate.

Parameters outside the project boundaries can be included in the monitoring plan to assess the plausibility of the results. The monitoring methodology is clear and user friendly. The monitoring provisions are in line with the project boundaries.

The choice of the indicators is reasonable and all indicated GHG parameters can be monitored and/or measured.

A monitoring of the baseline emissions is required. The adjustment of the baseline emissions (ex post determination of the baseline) via monitored data is possible, foreseen and demonstrated/explained traceably and plausibly in the PDD.

Additional monitoring of effects on air quality is required and taken into account in the monitoring plan.

The separation of responsibilities between the different project participants could be identified during the audit on site, but should be displayed more detailed.

Additional procedures for calibration of monitoring equipment should be identified and procedures for the maintenance of monitoring equipment and installations should be described.

Possible uncertainties are known, but respective procedures for dealing with these uncertainties should be worked out more detailed and transparently until the date of the first verification.

The monitoring methodology allows for conservative, transparent, accurate and complete calculation of the ex post GHG emissions.

The current and future responsibilities and quality assurance procedures have been explained during the visit on site in a plausible manner but no written documentation has been submitted so far.

3.3.2 Issued CARs/CRs

Clarification Request No. 4:

The PDD should be adjusted in order to demonstrate the monitoring concept more detailed. All measuring points for the project should be illustrated via a simplified schema (flowchart), information should be given concerning calibration frequencies and measurement accuracy, information concerning responsibilities and further information concerning procedures in emergency cases. The procedure and different steps of the reporting process should be explained.

Response:

The PDD was adjusted. Measured parameters, measuring equipment, measuring points and responsibilities for calibration of the equipment, monitoring and reporting have been outlined in detail in the revised PDD and related annexes.

Clarification Request No. 5:

As already explained (see comments above) not all grid connections and internal connections are fully explained and (where necessary) taken into account. Further parameters for monitoring might be required.

The own electricity consumption of the new equipment has to be monitored.

A (voluntary) procedure should be developed how the methane emissions of the landfill can be monitored and proved. This question should be addressed and discussed in the PDD.

The storage duration should be adjusted.

Response:

The required corrections and clarifications are included in the revised final PDD and in the annexes A.1- A.2. Additional information was added concerning the consideration of own electricity consumption in the calculations and concerning the specification of the equipment. Selling electricity is excluded due to the own electricity needs of OJSC “Kirovogradoliya”. Sources for calculating methane emissions from landfill site (IPCC good practice guidance) have been added. Literature references are included in the revised PDD.

Clarification Request No. 6:

By completing the monitoring plan it should be explained and proved whether or whether not a monitoring of parameters outside the project boundaries is necessary.

Response:

The required clarifying information is included in the revised PDD. The monitoring of parameters outside of the project boundaries is not required.

Clarification Request No. 7:

Information should be added whether the monitoring concept can be integrated in an envisaged ISO 9000 system.

Response:

The required information is included in the revised PDD and in the related Annexes 1.1-1.2. An integration of the monitoring concept in the ISO 9001 certification process is foreseen.

Additional information required No. 6

The issue "leakage" should be addressed and discussed more detailed in the PDD. Evidence should be given that leakage effects amount to less than 1 % of the calculated and expected emissions reductions.

Response:

Leakage is plausibly argued as not being relevant in this project.

Additional Information required No. 7:

The responsibility for the monitoring of this data and the data source should be mentioned in the monitoring plan.

The positive socio-economic effects and positive environmental effects of the envisaged project should be demonstrated more detailed.

Response:

The required additional information concerning responsibilities for monitoring is integrated in chapter E 5 "Responsibilities" of the PDD.

Clarification Request No. 8:

Possible monitoring errors or uncertainties and the influence on the emissions reductions should be addressed and discussed.

Response:

The required clarification is integrated in chapter 4.1 "procedures".

Clarification Request No. 9:

It should be mentioned that a project management manual will be developed until the starting date of the crediting period at the latest in which the project management, monitoring responsibilities, training courses etc. will be described in detail. Also written working instructions should be developed until this date. First examples therefore should be integrated in the PDD (if already available).

Response:

The project management manual will be installed in the framework of the envisaged ISO 9001 certification (planned for 2006).

3.3.3 Conclusion

All responses given to the indicated CRs, CARs and required additional information are resolving the belonging issues. The project fulfils the criteria on monitoring as set for the approval of JI-projects.

3.4 Calculation of GHG Emissions

3.4.1 Findings

The project's spatial boundaries are currently not clearly described.

Regarding emission sources not all aspects are covered in total until now.

Under the pre-condition that questions concerning sources and project boundaries can be solved, the PDD gives a complete and transparent calculation of the project GHG emissions.

Leakage calculations are not requested.

The calculation is based on spreadsheets, which have been submitted as hard-copy during the on-site visit only. No underlying formula has been delivered so far.

All data is based either on default values or on the activity level of the project. Both components have been verified during the validation process. But the underlying assumptions and parameters are not supported by clearly referenced sources as for example:

- (Own) electricity consumption
- Availability of plant
- Boiler efficiency
- Heat value of fuels

Under the assumption that the project scenario is not identical to the baseline scenario, the project will result in fewer GHG emissions than the baseline scenario.

3.4.2 Issued CARs/CRs

Corrective Action Request No. 5:

In the calculation the following items are not considered and integrated or not discussed totally:

- Own electricity consumption of the new equipment
- The calculation of transport emissions will cause problems
- Evidence for methane emissions at the landfill is not given re-traceably enough
- Information concerning one-direction or two-direction connection lines to the natural gas, the electricity grid is missing.

These aspects should be considered and, if necessary, taken into account in the GHG calculations.

Response:

The required corrections and clarifications are included in the revised final PDD and in the annexes A.1- A.2. Additional information was added concerning the consideration of own electricity consumption in the calculations and concerning the specification of the equipment. Selling electricity is excluded due to the own electricity needs of OJSC “Kirovogradoliya”. Sources for calculating methane emissions from landfill site (IPCC good practice guidance) have been added. Literature references are included in the revised PDD.

Additional Information Required No. 8:

A discussion concerning uncertainties should be included in the PDD.

Response:

This discussion was integrated in the revised PDD.

3.4.3 Conclusion

All responses given to the indicated CRs and CARs/AIs are resolving the belonging issues. The project fulfils the criteria on GhG emissions reductions calculations as set for the approval of JI-projects.

3.5 Environmental Impacts

3.5.1 Findings

The description of the environmental impacts currently is not sufficient.

The results of the environmental impact assessment shall be integrated in the PDD.

The project complies with the environmental legislation in Ukraine. No license to generate electricity for the own consumption is required. License to sell electricity and/or heat to the grid are required but are not required and aimed at in this stage of the project. Due to the given information and in accordance with the national regulations (energy law) there is no evidence that the granting of such licenses should be a problem.

3.5.2 Issued CARs/CRs and AIs

Additional Information required No. 9:

The environmental impact assessment should be added to the PDD as an annex.

The underlying national regulations and requirements and the necessity to carry out an EIA as a basic requirement for the final approval of the project should be explained more detailed.

Response:

The EIA was added as annex 7 to the PDD.

Additional Information required No. 10:

The aspect of possible adverse environmental effects should be addressed and discussed in the PDD.

In comparison to flaring natural gas the combustion of husk seed can lead to a worsening of the emissions situation. It should be argued how this can be excluded.

Response:

Possible adverse environmental effects relate to the “air quality”. To ensure that there will be no such effect emission will be monitored and influence on air quality will be described in the monitoring reports.

3.5.3 Conclusion

All responses given to the indicated CRs and CARs/AIs are resolving the belonging issues. The project fulfils the criteria on monitoring of environmental and socio-economic impacts as set for the approval of JI-projects. A voluntary monitoring of environmental and socio-economic impacts is envisaged.

3.6 Local stakeholder process

3.6.1 Findings

The project has been made public in the context of the overall project of plant installation via meetings, articles in newspapers and personal discussion with regional and national authorities.

There have been no negative comments, which would have required any further action directly related to the specific project assessed herewith. Only positive estimation have been received by the involved institutions.

3.6.2 Issued CARs/CRs

Additional Information required No. 11:

Information should be given concerning the process of inviting stakeholders to comment on the project.

In detail this means:

- Publishing date, copy of information publicly given concerning the project Invitation Letter

- List of participants
- Summary of feedback of public consultation process (via public hearings/email)

Response:

Details of invitation, names of invited stakeholders and reactions on the project presentation are documented in detail in chapter C of the PDD.

3.6.3 Conclusion

All responses given to the indicated CRs are resolving the belonging issues. The project fulfils the criteria on stakeholders involvement as set for the approval of JI-projects

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

A stakeholder process has taken place on the website of the TÜV SÜD for commenting on CDM/JI projects www.netinform.net module “Climate and energy”. The stakeholder process started May 13th and lasted for 30 days. Comments could be submitted until June 12th, 2005.

No comments have been received.



5 DETERMINATION OPINION

TÜV SÜD has performed a determination of the "Utilization of sunflower seed husks for steam and power production at the oil extraction plant OJSC "Kirovogradoliya"" JI Project in Ukraine, submitted by OJSC "Kirovogradoliya" in Kirovograd. The determination was performed on the basis of relevant JI criteria.

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

In our opinion, the project currently meets all relevant UNFCCC requirements for JI.

Four outstanding issues are beyond the time horizon of the determination and must be considered as being outstanding.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of 227.720 tons CO₂ (to be issued as ERUs) in the provided crediting period (years 2008 – 2012, first commitment period under the Kyoto Protocol) represents a conservative estimation using the assumptions given by the project documents.

The validation is based on the information made available to us and the engagement conditions detailed in this report. All such information has been validated and verified on the risk based approach described by this report.

The purpose of this report is the solely use for registration under a future JI system. Hence, TÜV SÜD can not be held liable by any party for decisions beyond the original purpose which will be made or not made based on this report.

Munich, 2005-06-14

Munich, 2005-06-14

A blue ink signature of Michael Rumberg, consisting of a stylized 'M' and 'R'.

Michael Rumberg

Certification Body "Climate and Energy"

A blue ink signature of Thomas Kleiser, written in a cursive style.

Thomas Kleiser

Responsible Project Manager

Determination Report:
Utilization of sunflower seed husks for steam and power production
at the oil extraction plant OJSC "Kirovogradoliya", JI Project,
Ukraine

Annex 1 of 2



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Determination Protocol



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

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	<u>O1</u>	<p>The audit team has not received a Letter of Approval/ Letter of No Objection regarding the provided JI project from the Parties involved yet.</p> <p>According to the information given on-site all concerned national and regional authorities have confirmed their assistance and the endorsement for the project.</p> <p><u>Explanation:</u></p> <p>A formal Letter of Approval of the Ukraine has not been signed and submitted as yet as Ukraine has not officially indicated a national focal point until now. Nevertheless the board which will be responsible for the approval of JI projects in future is already appointed. The process for signing this letter has already been started. But a required document for this approval will be the “Final Determination Report” including this Determina-</p>

* : Compliant; CAR: Corrective Action Request; CR: Clarification Request; AI: Additional Information required; O: Outstanding Issue (due to missing institutions and guidelines)


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

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			<p>tion Protocol and an Information Reference List.</p> <p>The formal letter of approval of the Austrian government also is not existent in writing, but the admission of the project to the Austrian JI/CDM programme (first step) can be seen as a demonstration of interest to supply this letter of approval in written form with existence of a positive validation opinion. So the “Final Determination Report” including Determination Protocol and Information Reference List is also an inevitable requirement by the Austrian government (Austrian DNA for the submission a written letter of approval.</p> <p><u>Outstanding Issue No. 1:</u></p> <p>Documents demonstrating the approval of the project(s) from both countries (Austria and Ukraine) have to be presented to the audit team or rather to the persons in charge for the Austrian JI/CDM programme.</p>

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	Kyoto Protocol Article 6.1 (b)	See below	Table 2, Section B.2
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	<input checked="" type="checkbox"/>	Austria fulfils all obligations as requested.
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3	Kyoto Protocol Article 6.1 (d)	<input checked="" type="checkbox"/>	The project is additional to domestic actions in Austria.
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	Marrakech Accords, JI Modalities, §20	<u>O2</u>	Austria has designated a National Focal Point (department 54 of the Austrian Ministry of Life). Ukraine has not officially designated a National Focal Point, but has nominated a so-called contact person for JI projects, Mr. Heorhiy Veremiychuk at the Ministry for Environment Protection of Ukraine. Probably he will be nominated as National Focal Point in the nearby future. National guidelines and procedures (G&P) are currently available for Austria (in the framework of the Austrian JI/CDM

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			programme) but not for JI projects in the Ukraine until now. According to the given information in the audits national guidelines and procedures (G&P) for Ukraine are currently under development. So it can be expected with the utmost probability that these procedures will be installed until the beginning of 2006 and herewith before the starting date of the crediting period (January 1 st , 2008).
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	<input checked="" type="checkbox"/>	The Ukraine is a Party (Annex I Party) to the Kyoto Protocol and has ratified the Kyoto Protocol at April 12 th 2004.
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts	Marrakech Accords, JI Modalities, §21(b)/24	<u>O3</u>	This issue can not be answered concluding. The Ukraine's assigned amount is 100% of emissions in 1990. No national communication has been submitted by Ukraine until now but due to current informa-

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			tion this national communication is under already under development.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4	Marrakech Accords, JI Modalities, §21(d)/24	<u>O4</u>	This issue can not be answered by now as such as the JI system is not installed yet.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Marrakech Accords, JI Modalities, §31	<input checked="" type="checkbox"/>	A project documentation consisting further information such as a baseline study, a monitoring plan, information concerning the environmental impact assessment, information concerning stakeholder consultations and concerning the financial background of the project has been submitted in April 2005 to the audit team.
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments	Marrakech Accords, JI Modalities, §32	<input checked="" type="checkbox"/>	A stakeholder process has been conducted via TÜV SÜD’s website for commenting on JI/CDM project activities in the validation process: www.netinform.net module “Climate and Energy”. The process has been started

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REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			on May 13 th , 2005 and lasted for 30 days. Comments could be submitted until June 12 th , 2005. No comments have been received.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out	Marrakech Accords, JI Modalities, §33(d)	See below	Table 2, Section F
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project	Marrakech Accords, JI Modalities, Appendix B	See below	Table 2, Section B.2
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, JI Modalities, Appendix B	See below	Table 2, Section B.2

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

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Table 2 Requirements Checklist


CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity					
A.1. Project Boundaries					
A.1.1. Are the project’s spatial (geographical) boundaries clearly defined?	1-5, 6, 7, 8, 12, 14- 16, 23, 24, 33	DR, I	<p>The spatial boundaries of the project are described in chapter D 1.3.</p> <p>The project boundaries include hereby four three types of emission reductions:</p> <ul style="list-style-type: none"> • Reducing CO₂ emissions from natural gas combustion for steam supply by using biomass (sunflower husk) as future fuel • Reducing CO₂ emissions by generating electricity on base of biomass in the CHP and substituting partially electricity delivered from the grid • Reducing methane emissions at the landfill site by combusting the biomass in the CHP s to profuce steam and electricity <p>Currently the project boundaries are not clearly defined.</p> <p>There is some confusing and conflicting information:</p>	CAR1	<input checked="" type="checkbox"/>

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

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			<ul style="list-style-type: none"> - under D 1.3 the information is given: “... in the baseline scenario (without JI project” the old boilers are put out of operation and dismantled and two new gas boilers (.....) are installed. - under D 3 the information is given: “... in the baseline scenario the old boilers remain in operation and new gas-fired boilers are installed to meet thermal and energy requirements”. <p>This should be corrected and clarified.</p> <p>It also was envisaged (in the calculations) to take into account transport emissions (as further baseline emissions). This does not correspond with the information on project boundaries given in other parts of the PDD. The audit also resulted in the cognition that a monitoring of transport emissions would be very time- and cost-intensive and makes no sense in view of the resulting marginal emissions reductions.</p>		


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			<p><u>Corrective Action Request No. 1:</u></p> <p>The information concerning the project boundaries should be corrected, elaborated more detailed and illustrated via figures.</p> <p>The equipment inside project boundaries should be specified (number, type, technical specification) for the baseline as well as the project case. It should be clearly described which effects will be taken into account and which not.</p> <p>The own consumption of the new equipment cannot be taken into account in calculating the emission reductions.</p> <p>In the illustration of the project boundaries all sites (also the landfill site) and connections (to the electricity grid, natural gas grid and, if existing, heat grid should be demonstrated.</p>		
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1-5, 6, 7, 8, 12, 14- 16, 23,	DR, I	The description of the relevant components and facilities used to mitigate GHGs is not correctly described in total (see information given above). Components and facilities used to mitigate GHG emissions should be elaborated more detailed.	CAR1	<input checked="" type="checkbox"/>

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	24, 33				
A.2. Technology to be employed					
A.2.1. Does the project design engineering reflect current good practices?	1-5, 6, 8, 17, 22, 33	DR, I	Yes, the employed technology does reflect current good practice concerning the installation and operation of steam, heat and electricity generation plants. As currently there are only less experiences with husk boilers of the scheduled size the project reflects even more than “current good practice” and has to be considered as very innovative and progressive.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1-5, 6, 8, 17, 22, 33	DR, I	The project uses even more than state of the art technology. The technology itself is an already approved technology especially in some countries of the Western Europe, North America and Japan, but it is used for husk combustion only in a few cases and is therefore not widespread. The design has to be developed individually for this project. The project is to be considered as a pilot-project for this type of JI projects in Ukraine and even in the whole eastern Europe.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1-5, 6, 8, 17, 22, 33	DR, I	<p>It is not likely that the project technology will be substituted by a more efficient technology during the crediting period as the technology applied is considered to be operational for at least 6 years 4 months.</p> <p><u>Additional information required No. 1:</u> The operational lifetime of the intended equipment in project case is deemed to outlast the crediting period manifestly. This information should be included in the PDD and in the additional technical description.</p>	AI 1	<input checked="" type="checkbox"/>
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1-5, 7, 12, 24, 32,	DR, I	<p>During the visit on site it was reported that staff responsible for the new equipment needs to be trained. It is evident that in this stage of the project concrete training and education plans can not be provided finally.</p> <p><u>Clarification Request No. 1:</u> Nevertheless it should be described more detailed in the project documentation which company will be responsible for the new equipment and which company will be responsible for the future training activities</p>	CR1	<input checked="" type="checkbox"/>

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			and the education of the staff. Which role has the supplier of the new equipment in this process? Which company is responsible for the maintenance? Which measures are planned for the training of the staff? Which is the role of the project developer?		
A.2.5. Does the project make provisions for meeting training and maintenance needs?	1-5, 32	DR, I	See comment above.	CR1	<input checked="" type="checkbox"/>
B. Project Baseline					
B.1. Baseline Methodology					
B.1.1. Is the discussion and selection of the baseline methodology transparent?	1-5, 6, 7, 13 - 17, 24, 33	DR, I	The project developer has applied a generic baseline methodology as defined for the Austrian CDM/JI-programme (see: http://www.ji-cdm-austria.at or http://www.klimaschutzprojekte.at). <u>Corrective Action Request No. 2:</u> The theoretical discussion and selection of the baseline methodology is plausible, but not considered as transparent and complete.	CAR2	<input checked="" type="checkbox"/>


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			<p>In detail this means:</p> <ul style="list-style-type: none"> • The own electricity consumption of the new equipment was not taken into account. • It is not clearly described whether a sale of produced electricity to the regional grid is possible and envisaged. • The equipment in baseline case is not described. • The existence/absence of connections to the regional grids (natural gas, electricity and heat) is not described and discussed in the PDD although this could influence the baseline emissions. • Evidence for the assumed methane emissions at the landfill site should be submitted to the validator. The procedure of husk deposition at the landfill site should be described. Evidence should be given that the possible combustion of husk seed at the landfill site can be excluded. 		


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.1.2. Does the baseline methodology specify data sources and assumptions?	1-5, 6,7, 13 – 17, 24, 33	DR, I	See above! Data which are used to calculate baseline emissions are not applied correctly in any case, sources have not been transparent not in each case. As mentioned above the baseline has to be adjusted and must be based on conservative assumptions and calculations. All sources and effects have to be included. Fundamentals for the calculations must be added as annexes necessarily, sources must be documented re-traceably and plausibly. Excel-Sheets with the underlying rationales should be submitted to the validator.	CAR2	<input checked="" type="checkbox"/>
B.1.3. Does the baseline methodology sufficiently describe the underlying rationale for the algorithm/formulae used to determine baseline emissions (e.g. marginal vs. average, etc.)	1-5, 13 - 17	DR, I	See above.	CAR2	<input checked="" type="checkbox"/>
B.1.4. Does the baseline methodology specify types of variables used (e.g. fuels used, fuel consumption rates, etc)?	1-5, 13- 17	DR, I	Yes, but not detailed enough. See comments above above.	CAR2	<input checked="" type="checkbox"/>
B.1.5. Does the baseline methodology specify the spa-	1-5,	DR, I	Not in total.	AI 2	<input checked="" type="checkbox"/>

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
tial level of data (local, regional, national)?	13 - 17		Additional information required No. 2: The spatial level of data (sources for example for emission factors, efficiency of equipment etc.) should be explained more detailed.		
B.2. Baseline Determination					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1-5, 13- 17, 19, 21, 23, 24, 26, 33	DR, I	Not in total. Additional information required No. 3: The baseline of the project is not the “business as usual” scenario. The discussion and determination of the chosen baseline should be elaborated more detailed. Cogent and demonstrative reasons should be given in the PDD (maybe the lifetime of the existing equipment, national legislation etc.) that the continuation of the current practice can be excluded as baseline scenario.	AI 3, CAR 1	<input checked="" type="checkbox"/>


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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.2.2. Has the baseline been determined using conservative assumptions where possible?	1-5, 13-17, 23, 24, 33	DR, I	No. <u>Corrective Action Request No. 3:</u> <ul style="list-style-type: none"> - The own electricity consumption of the new equipment must be taken into account in the calculation of the emissions reductions - Currently no assured evidence is given for the appearance of the described methane emissions of the landfill site - It should be checked whether the consideration (and the monitoring) of transport emissions makes sense. - The baseline scenario (see also CAR is not elaborated concrete enough). - 	CAR3	<input checked="" type="checkbox"/>
B.2.3. Has the baseline been established on a project-specific basis?	1-5, 13-17, 23, 24, 32, 33,	DR, I	Yes the baseline is established in a project specific manner.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	34				
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	1-5, 13-17, 23, 24, 32, 33, 34	DR, I	<p>Yes, the baseline does take into account the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described and their impact on the baseline and the project risk is evaluated reasonably. The description includes economic, legal, political and technological factors.</p> <p><u>Clarification Request No. 2:</u></p> <p>The specific significance of factors as relevant national and/or sectoral policy, macro-economic trends and political aspirations (in this case for example the likely cogeneration law and the possible influence on the project) should be elaborated more detailed and a compendium of the implemented considerations should be included.</p>	CR2	<input checked="" type="checkbox"/>


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

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B.2.5. Is the baseline determination compatible with the available data?	1-5, 13-17, 23, 24, 32, 33, 34	DR, I	Yes, under taking into account the implementation of the clarification and corrective action requests given above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.2.6. Does the selected baseline represent a likely scenario in the absence of the project?	1-5, 13-17, 23, 24, 32, 33, 34	DR, I	Yes, under taking into account the implementation of the clarification and corrective action requests given above. It should be plausibly and re-traceably demonstrated that the baseline represents the most likely scenario in the non project case. The baseline scenario conforms to all legal requirements and the prevailing practice in the Ukrainian energy, heat and steam generation sector.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.2.7. Is it demonstrated that the project activity itself is not a likely baseline scenario?	1, 33, 34	DR, I	Yes, the assessment team has found convincing evidence that demonstrates that the project is not a business as usual project. But in order to be in line with the requirements of the assessment tool for demonstration of additionality further information needs to be given concerning the “Impact of JI Registration”. Also information should be	AI 4	<input checked="" type="checkbox"/>

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			<p>added for the purpose to demonstrate that the continuation of the current situation can be excluded as baseline scenario.</p> <p><u>Additional information required No. 4:</u> Information/figures concerning the investment comparison analysis should be added. A detailed cash flow analyses including IRR, NPV with and without influence of cash inflows from selling ERUs (2008 – 2012) should be presented for the project. Evidence should be given regarding the consideration of JI during the phase of considering project realization alternatives. The sensibility concerning variations of the feed-in tariff also should be demonstrated. The influence of JI registration should be described and argued more detailed and transparent. The extended business plan should be added to the PDD.</p>		
B.2.8. Have the major risks to the baseline been identified?	1-5, 23, 24, 32, 33	DR, I	No, this is not part of the question list of the Austrian JI/CDM programme (for the application of JI projects).	CR3	<input checked="" type="checkbox"/>


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			Clarification Request No. 3: Nevertheless the major risks should be determined and summarized in a separate paragraph.		
B.2.9. Is all literature and sources clearly referenced?	1-5, 6-10, 24-28, 33	DR, I	No, Corrective Action Request No. 4: As required during the audits, further information (literature, data sources, fundamentals etc.), which is available and necessary for the calculations should be added as annexes to the PDD (for example: amount of husk combusted in the last years, amount of mazut used, electricity delivered from the regional grid, source of emission factors et.).	CAR4	<input checked="" type="checkbox"/>
C. Duration of the Project/ Crediting Period					
C.1.1. Are the project’s starting date and operational lifetime clearly defined and reasonable?	1-5, 33	DR, I	Not in total. Additional Information required No. 5: The project starting date should not lie in the future as first measures in the context of the project already were in preparation during the on-site visit. The operational lifetime of the equipment should be estimated more	AI 5	<input checked="" type="checkbox"/>


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			realistic.		
C.1.2. Is the project’s crediting time clearly defined?	6, 7, 33	DR, I	Yes, the crediting period is defined as being from 2008 – 2012 (ERUs) in accordance with the first commitment period defined in the Kyoto Protocol. The sales of emission reductions (AAUs, not ERUs) prior to 2008 is not envisaged according to the information given during the on-site audits.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D. Monitoring Plan					
D.1. Monitoring Methodology					
D.1.1. Does the monitoring methodology reflect good monitoring and reporting practices?	1-5, 9- 11, 13- 17, 22	DR, I	The project developer has applied a generic monitoring methodology as for example outlined in the ERUPT and in the Austrian CDM/JI tender guidelines. But the obtained information is not sufficient until now. <u>Clarification Request No. 4:</u> The PDD should be adjusted in order to demonstrate the monitoring concept more detailed. All measuring points for the project should be illustrated via a simplified schema (flowchart), information should be given concerning calibration frequencies and	CR4	<input checked="" type="checkbox"/>

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			measurement accuracy, information concerning responsibilities and further information concerning procedures in emergency cases. The procedure and different steps of the reporting process should be explained.		
D.1.2. Is the selected monitoring methodology supported by the monitored and recorded data?	1-5,, 13- 16	DR, I	Currently this cannot be confirmed in total. Clarification Request No. 5: <ul style="list-style-type: none"> - As already explained (see comments above) not all grid connections and internal connections are fully explained and /where necessary) taken into account. Further parameters for monitoring might be required. - The own electricity consumption of the new equipment has to be monitored. - A (voluntary) procedure should be developed how the methane emissions of the landfill can be monitored). This question should be addressed and discussed in the PDD. The storage duration should be adjusted.	CR 5	<input checked="" type="checkbox"/>
D.1.3. Are the monitoring provisions in the monitoring methodology consistent with the project	1-5, 13-	DR, I	See above!	CR 5	<input checked="" type="checkbox"/>


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boundaries in the baseline study?	16, 23, 24, 32, 33				
D.1.4. Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?	1-5, 13-16, 23, 24, 32, 33	DR, I	This should be discussed again if all parameters which have to be monitored are clearly described. Clarification Request No. 6: After completing the monitoring plan it should be explained and proofed whether or whether not a monitoring of parameters outside the project boundaries is necessary.	CR 6	<input checked="" type="checkbox"/>
D.1.5. Does the monitoring methodology allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions?	1-5, 13-16, 23, 24, 32, 33	DR, I	Yes, under the assumption that the clarifications and corrections demonstrated above will be taken into account.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.6. Is the monitoring methodology clear and user friendly?	1-5, 13-16, 23, 24, 32, 33	DR, I	Yes, under the pre-condition that the required CRs and CARs will be solved. The monitoring methodology will be integrated in future reporting and quality assurances structures. Clarification Request No. 7: Information should be added whether the monitoring concept can be integrated in an	CR 7	<input checked="" type="checkbox"/>

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			envisaged ISO 9001 system. Independent from this the monitoring system, frequencies of reporting, internal review phases and adjustment procedures should be demonstrated more detailed (which positions are responsible for the different steps of monitoring).		
D.1.7. Does the methodology mitigate possible monitoring errors or uncertainties addressed?	1-5, 13-16, 23, 24, 32, 33	DR, I	This issue is not addressed. <u>Clarification Request No. 8:</u> Possible monitoring errors or uncertainties and the influence on the emissions educutions should be addressed and discussed?	CR8	<input checked="" type="checkbox"/>
D.2. Monitoring of Project Emissions					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	1-5, 13-16, 23, 24, 32, 33	DR, I	As explained before currently not all parameters are integrated into the monitoring plan. The collection and archiving of all required data should be elaborated more detailed.	CAR 1-4, CR 5 -8	<input checked="" type="checkbox"/>


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D.2.2. Are the choices of project GHG indicators reasonable?	1-5, 13-16, 23, 24, 32, 33	DR, I	Yes. Only CO2 and methane emissions are relevant in this project. This is described correctly in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	1-5, 13-16, 23, 24, 32, 33	DR, I	Yes, see above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.4. Will the indicators enable comparison of project data and performance over time?	1-5, 13-16, 23, 24, 32, 33	DR, I	Yes, a comparison of project data and performance over time is possible. Further Information how this comparison can be arranged should be added to the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.3. Monitoring of Leakage					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1-5, 33, 34	DR, I	No. leakage is addressed and discussed in the PDD. As a result a monitoring of leakage effects is not deemed to be reasonable.	AI 6	<input checked="" type="checkbox"/>

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			Additional information required No. 6 After completing the monitoring plan this issue should be addressed again and also discussed more detailed in the PDD. Evidence should be given that leakage effects amount to less than 1 %of the calculated and expected emissions reductions.		
D.3.2. Have relevant indicators for GHG leakage been included?	1-5,16	DR, I	See comment above.	AI 6	<input checked="" type="checkbox"/>
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1-5, 13-16, 23, 24, 32, 33	DR, I	See comment above.	AI 6	<input checked="" type="checkbox"/>
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	1-5, 13-16, 23, 24, 32, 33	DR, I	See comment above.	AI 6	<input checked="" type="checkbox"/>

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D.4. Monitoring of Baseline Emissions					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline emissions during the crediting period?	1,5, 13, 14, 15	DR, I	Yes. The needed parameters are nominated in the PDD, are planned to be measured in the monitoring plan and will be collected and archived according to the information given in the PDD. Under the pre-condition that the required CRs and CARs will be solved this question can be answered positively.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	1-5, 13- 16, 23, 24, 32, 33	DR, I	See comments above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.4.3. Will it be possible to monitor the specified baseline indicators?	1-5, 33	DR, I	See comments above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.5. Monitoring of Social and Environmental Impacts					
D.5.1. Does the monitoring plan provide for the collection and archiving of relevant data on social and environmental impacts?	1-5, 33, 22- 31	DR, I	Yes, the monitoring of environmental and social parameters is addressed in the PDD, but should be elaborated more detailed. <u>Additional Information required No. 7:</u> The responsibility for the monitoring of this data and the data source should be mentioned in the monitoring plan.	AI 7	<input checked="" type="checkbox"/>

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			The positive socio-economic effects and positive environmental effects of the envisaged project should be demonstrated more detailed.		
D.5.2. Will it be possible to monitor the specified impact indicators?	1, 33	DR, I	Yes, see comment above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.6. Project Management Planning					
D.6.1. Is the authority and responsibility of project management clearly described?	1-5, 33	DR, I	No. The current and future responsibilities and quality assurance procedures have been explained during the visit on site in a plausible manner but not specific written documentation has been submitted so far. <u>Clarification Request No. 9:</u> It should be mentioned that a project management manual will be developed until the starting date of the crediting period at the latest with certain information on the project management, monitoring responsibilities, training courses etc.. Also written working instructions should be developed until this date. First examples therefore should be integrated in the PDD (if already available). All only if information is available!	CR9	<input checked="" type="checkbox"/>
D.6.2. Is the authority and responsibility for registra-	1-5,	DR,	See comment above.	CR9	<input checked="" type="checkbox"/>

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	tion, monitoring, measurement and reporting clearly described?	33	I			
D.6.3.	Are procedures identified for training of monitoring personnel?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.4.	Are procedures identified for emergency preparedness where emergencies can result in unintended emissions?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.5.	Are procedures identified for calibration of monitoring equipment?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.6.	Are procedures identified for maintenance of monitoring equipment and installations?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.7.	Are procedures identified for monitoring, measurements and reporting?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.8.	Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.9.	Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.10.	Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>

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D.6.11. Are procedures identified for project performance reviews?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
D.6.12. Are procedures identified for corrective actions?	1-5, 33	DR, I	See comment above.	CR9	<input checked="" type="checkbox"/>
E. Calculation of GHG Emissions by Source					
E.1. Predicted Project GHG Emissions					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	1-5, 33	DR, I	Yes, under the pre-condition that all CARs and CRs are solved and taken into account.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	1-5, 33	DR, I	Currently this can not be confirmed. <u>Corrective Action Request No. 5:</u> In the calculation the following items are not considered and integrated or not discussed totally: <ul style="list-style-type: none"> • Own electricity consumption of the new equipment • The calculation of transport emissions will cause problems • Evidence for methane emissions at the landfill is not given re-traceably enough • Information concerning one-direction or two-direction connection lines to the natural gas, the electricity grid is 	CAR 6	<input checked="" type="checkbox"/>

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			missing. These aspects should be considered and, if necessary, taken into account in the GHG calculations.		
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1-5, 33	DR, I	No, see above.	CAR 6	<input checked="" type="checkbox"/>
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1-5, 33	DR, I	No. <u>Additional Information required No. 8:</u> A discussion concerning uncertainties should be included in the PDD.	AI 8	<input checked="" type="checkbox"/>
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	1-5, 33	DR, I	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.2. Leakage Effect Emissions					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	1-5, 33	DR, I	See above (AI 6). This issue should be discussed more detailed after completing the list with parameters which have to be monitored.	AI 6	<input checked="" type="checkbox"/>
E.2.2. Have these leakage effects been properly accounted for in calculations?	1-5, 33	DR, I	See comment above	AI 6	<input checked="" type="checkbox"/>


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E.2.3. Does the methodology for calculating leakage comply with existing good practice?	1-5, 33	DR, I	See comment above	AI 6	<input checked="" type="checkbox"/>
E.2.4. Are the calculations documented in a complete and transparent manner?	1-5, 33	DR, I	See comment above	AI 6	<input checked="" type="checkbox"/>
E.2.5. Have conservative assumptions been used when calculating leakage?	1-5, 33	DR, I	See comment above	AI 6	<input checked="" type="checkbox"/>
E.2.6. Are uncertainties in the leakage estimates properly addressed?	1-5, 33	DR, I	See comment above	AI 6	<input checked="" type="checkbox"/>
E.3. Baseline Emissions					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	1-5, 33	DR, I	Not in tota (see comments above).	CAR 1-5, CR 1-4	<input checked="" type="checkbox"/>
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	1-5, 33	DR, I	No, see above.	CAR 1-5, CR 1-4	<input checked="" type="checkbox"/>
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	1-5, 33	DR, I	No. See comments above.	CAR 1-5, CR 1-4	<input checked="" type="checkbox"/>
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	1-5, 33	DR, I	No. See comments above.	CAR 1-5, CR 1-4	<input checked="" type="checkbox"/>
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	1-5, 33	DR, I	No. See comments above.	CR8	<input checked="" type="checkbox"/>
E.3.6. Have the project baseline(s) and the project	1-5,	DR,	No, see comments above.	CAR 1-	<input checked="" type="checkbox"/>


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emissions been determined using the same appropriate methodology and conservative assumptions?	33	I			5, CR 1-7	
E.4. Emission Reductions						
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1-5, 33	DR, I	Yes.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F. Environmental Impacts						
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	1-5, 13- 16, 33	DR, I	Yes. <u>Additional Information required No. 9:</u> The environmental impact assessment should be added to the PDD as an annex. The underlying national regulations and requirements and the necessity to carry out an EIA as a basic requirement for the final approval of the project should be explained more detailed.		AI 9	<input checked="" type="checkbox"/>
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1-5, 33	DR, I	Yes. See also comment above.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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F.1.3. Will the project create any adverse environmental effects?	1-5, 33	DR, I	This can not be excluded totally. Additional Information required No. 10: This aspect should be addressed and discussed in the PDD. In comparison to flaring natural gas the combustion of husk seed can lead to a worsening of the emissions situation. It should be argued how this can be excluded.	AI 10	<input checked="" type="checkbox"/>
F.1.4. Are transboundary environmental impacts considered in the analysis?	1-5, 33	DR, I	No transboundary environmental impacts are to be expected. This should be noted in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.5. Have identified environmental impacts been addressed in the project design?	1-5, 33	DR, I	Yes,	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.6. Does the project comply with environmental legislation in the host country?	1-5, 33	DR, I	Yes. See comment above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G. Stakeholder Comments		DR, I			
G.1.1. Have relevant stakeholders been consulted?	1-5, 33	DR, I	There are currently no concrete regulations in Ukraine how to conduct such a stakeholder process and how to obtain stakeholder comments.	AI 11	<input checked="" type="checkbox"/>

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		<p>Nevertheless there have been a lot of efforts to invite stakeholders to comment on the project. The project has been presented to local, regional and state authorities and was also published via newspapers and other media.</p> <p><u>Additional Information required No. 11:</u> Information should be given concerning the process of inviting stakeholders to comment on the project.</p> <p>In detail this means:</p> <ul style="list-style-type: none"> • Publishing date, copy of information publicly given concerning the project Invitation Letter • List of participants • Summary of feedback of public consultation process (via public hearings/email) <p>All only if information is available!</p>		
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G.1.2. Have appropriate media been used to invite comments by local stakeholders?	1-5,33	DR, I	Yes, the projects have been made public in the context of the overall project of plant installation via meetings, articles in newspapers, reports and personal discussion with authorities. See comments above!	AI 11	<input checked="" type="checkbox"/>
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1-5,33	DR, I	A project specific stakeholder process is not required by the national regulations/laws. But the consultation of affected public authorities is a requirement for the approval of the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.1.4. Is a summary of the stakeholder comments received provided?	1-5,33	DR, I	Only positive comments have been received.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G.1.5. Has due account been taken of any stakeholder comments received?	1-15	DR, I	There have been no comments, which would have required any further action directly related to the specific project assessed herewith. OJSC “Kirovogradoliya” will continue the interaction with public and private stakeholders during the implementation of the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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TABLE 3 RESOLUTION OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS


Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<p><u>Corrective Action Request No. 1:</u></p> <p>The given information concerning the project boundaries should be corrected, concretised, elaborated more detailed and illustrated via figures.</p> <p>The equipment inside project boundaries should be specified (number, type, technical specification) for the baseline as well as the project case. It should be clearly described which effects will be taken into account and which not. The own consumption of the new equipment has to be subtracted before calculating the emission reductions.</p> <p>In the illustration of the project boundaries all sites (also the landfill site) and connections (to the electricity grid, natural gas grid and, if existing, heat grid should be demonstrated.</p>	A1.1; A1.2; B.2.1	The required correction and needed clarification is included in the Final PDD (chapter D.1.3). Project boundaries, equipment and grid connections are illustrated via graphs and figures. The equipment is specified and all processes relevant for GHG emissions are explained clearly. Additional information is given in the revised technical description of the project.	<input checked="" type="checkbox"/>
<p><u>Additional information required No. 1:</u></p> <p>The operational lifetime of the intended equipment in project case is deemed to outlast the crediting period manifestly. This information should be included in the PDD and in the additional technical description.</p>	A.2.3	The required information was added to chapter A.5.1 of the PDD.	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<p><u>Clarification Request No. 1:</u></p> <p>Nevertheless it should be described more detailed in the project documentation which company will be alculatble for the new equipment and which company will be responsible for the future training activities and the education of the staff. Which role has the supplier of the new equipment in this process? Which company is alculatible for the maintenance? Which measures are planned for the training of the staff? Which is the role of the project developer?</p>	A.2.4	Responsibilities are explained detailed and enclosing in the chapter E 5.1 and (additional) in chapters A 3.2 and B 4.2 of the revised PDD.	<input checked="" type="checkbox"/>
<p><u>Corrective Action Request No. 2:</u></p> <p>The theoretical discussion and selection of the baseline methodology is plausible, but not considered as transparent and complete.</p> <p>In detail this means:</p> <ul style="list-style-type: none"> • The own electricity consumption of the new equipment was not taken into account. • It is not clearly described whether a sale of produced electricity to the regional grid is possible and envisaged. • The equipment in baseline case is not described. 	B.1.1 – B.1.4	The required corrections and clarifications are included in the revised final PDD and in the annexes A.1- A.2. Additional information was added concerning the consideration of own electricity consumption in the calculations and concerning the specification of the equipment. Selling electricity is excluded due to the own electricity needs of OJSC “Kirovogradoliya”. Sources for calculating methane emissions from landfill site (IPCC good practice guidance) have been added. Literature references are included in the revised PDD.	<input checked="" type="checkbox"/>


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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<ul style="list-style-type: none"> The existence/absence of connections to the regional grids (natural gas, electricity and heat) is not described and discussed in the PDD although this could influence the baseline emissions. Evidence for the assumed methane emissions at the landfill site should be submitted to the validator. The procedure of husk deposition at the landfill site should be described. Evidence should be given that the possible combustion of husk seed at the landfill site can be excluded. 			
<p><u>Additional information required No. 2:</u></p> <p>The spatial level of data (sources for example for emission factors, efficiency of equipment etc.) should be explained more detailed.</p>	B.1.5	The required additional information is included in the revised PDD. Sources of data and information concerning planned future measurements of parameters have been added. All data meanwhile have been sourced.	<input checked="" type="checkbox"/>
<p><u>Additional information required No. 3:</u></p> <p>The baseline of the project is not the “business as usual” scenario.</p> <p>The discussion and determination of the chosen baseline should be elaborated more detailed. Cogent and demonstrative reasons should be given in the PDD (maybe the lifetime of the existing equipment, national legislation etc.) that the continuation of the current practice can be</p>	B.2.1	Additional information concerning repair costs for the existing equipment, results of the technical assessment of the old boiler and requirements of the oblast of Kirovograd and the municipality of Kirovograd have been submitted to the validator and, where necessary, added to the revised PDD to proof that business-as-usual is not the baseline for this project.	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
excluded as baseline scenario.		A continuation of the current practice is excluded technically and lawfully for the next years.	
<u>Corrective Action Request No. 3:</u> <ul style="list-style-type: none"> - The own electricity consumption of the new equipment must be taken into account in the calculation of the emissions reductions - Currently no assured evidence is given for the appearance of the described methane emissions of the landfill site - It should be checked whether the consideration (and the monitoring) of transport emissions makes sense. - The baseline scenario (see also CAR is not elaborated concrete enough). 	B.2.2	All required corrections and clarifications have been added to the revised PDD and corresponding annexes. (see also answers under CR 1. and 2. and AI 2).	<input checked="" type="checkbox"/>
<u>Clarification Request No. 2:</u> The specific significance of factors as relevant national and/or sectoral policy, macro-economic trends and political aspirations (in this case for example the likely co-generation law and the possible (yes? No?) influence on the project) should be elaborated more detailed and a compendium of the implemented considerations should be included.	B.2.4	The required clarification is given in chapter B.4 “Additionality” of the PDD and the correspondent annexes and appendices (6).	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<p><u>Additional information required No. 4:</u></p> <p>Information/figures concerning the investment comparison analysis should be added.</p> <p>A detailed cash flow analyses including IRR, NPV with and without influence of cash inflows from selling ERUs (2008 - 2012) should be presented for the project. Evidence should be given regarding the consideration of JI during the phase of considering project realization alternatives. The sensibility concerning variations of the feed-in tariff also should be demonstrated.</p> <p>The influence of JI registration should be described and argued more detailed and transparent.</p> <p>The extended business plan should be added to the PDD.</p>	B.2.7	All required additional information specified under AI 4 is integrated in the revised business plan of the project (Appendix 1) and in the revised final PDD.	<input checked="" type="checkbox"/>
<p><u>Clarification Request No. 3:</u></p> <p>The major risks for the project should be determined and summarized in a separate paragraph.</p>	B.2.8	The major risks for the project are integrated in the PDD and also considered in the sensitivity study for the project.	<input checked="" type="checkbox"/>
<p><u>Corrective Action Request No. 4:</u></p> <p>As required during the audits, further information (literature, data sources, fundamentals etc.), which is available and necessary for the calculations should be added as</p>	B.2.9	All required information concerning data and literature sources, formulae, rationales and background data have been added to the revised PDD and related annexes.	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
annexes to the PDD (for example: amount of husk combusted in the last years, amount of mazut used, electricity delivered from the regional grid, source of emission factors et.).			
<u>Additional Information required No. 5:</u> The project starting date should not lie in the future as first measures in the context of the project already were in preparation during the on-site visit. The operational lifetime of the equipment should be estimated more realistic.	C.1.1.	The starting date was corrected (March 2005, start of PDD development). Additional retraceable and transparent information concerning the operational lifetime of the equipment was added to the PDD.	<input checked="" type="checkbox"/>
<u>Clarification Request No. 4:</u> The PDD should be adjusted in order to demonstrate the monitoring concept more detailed. All measuring points for the project should be illustrated via a simplified schema (flowchart), information should be given concerning calibration frequencies and measurement accuracy, information concerning responsibilities and further information concerning procedures in emergency cases. The procedure and different steps of the reporting process should be explained.	D.1.1	The PDD was adjusted, measured parameters, measuring equipment, measuring points and responsibilities for calibration of the equipment, monitoring and reporting have been outlined in detail in the revised PDD and related annexes.	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<p><u>Clarification Request No. 5:</u></p> <ul style="list-style-type: none"> - As already explained (see comments above) not all grid connections and internal connections are fully explained and /where necessary) taken into account. Further parameters for monitoring might be required. - The own electricity consumption of the new equipment has to be monitored. - A (voluntary) procedure should be developed how the methane emissions of the landfill can be monitored. This question should be addressed and discussed in the PDD. <p>The storage duration should be adjusted.</p>	D1.2; D.1.3	The required corrections and clarifications are included in the revised final PDD and in the annexes A 1- A.2. Additional information was added concerning the consideration of own electricity consumption in the calculations and concerning the specification of the equipment. Selling electricity is excluded due to the own electricity needs of OJSC “Kirovogradoliya”. Sources for calculating methane emissions from landfill site (IPCC good practice guidance) have been added. Literature references are included in the revised PDD.	<input checked="" type="checkbox"/>
<p><u>Clarification Request No. 6:</u></p> <p>After completing the monitoring plan it should be explained and proofed whether or whether not a monitoring of parameters outside the project boundaries is necessary.</p>	D 1.4	The required clarifying information is included in the final PDD. A measurement of parameters outside of the project boundaries is not required.	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<p><u>Clarification Request No. 7:</u></p> <p>Information should be added whether the monitoring concept can be integrated in an envisaged ISO 9001 system.</p> <p>Independent from this the monitoring system, frequencies of reporting, internal review phases and adjustment procedures should be demonstrated more detailed (which positions are responsible for the different steps of monitoring).</p>	D.1.6	The required information is included in the revised PDD and in the related Annexes 1.1-1.2.	<input checked="" type="checkbox"/>
<p><u>Clarification Request No. 8:</u></p> <p>Possible monitoring errors or uncertainties and the influence on the emissions reductions should be addressed and discussed?</p>	D.1.7; E.3.5	The required clarification is integrated in chapter 4.1 “procedures”.	<input checked="" type="checkbox"/>
<p><u>Additional information required No. 6</u></p> <p>After completing the monitoring plan this issue should be addressed again and also discussed more detailed in the PDD. Evidence should be given that leakage effects amount to less than 1 %of the calculated and expected emissions reductions.</p>	D.3.1-4	Leakage is plausibly argued as not being relevant in this project.	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<u>Additional Information required No. 7:</u> The responsibility for the monitoring of this data and the data source should be mentioned in the monitoring plan. The positive socio-economic effects and positive environmental effects of the envisaged project should be demonstrated more detailed.	D.5.1	The required additional information concerning responsibilities for monitoring is integrated in chapter E 5 “Responsibilities” of the PDD.	<input checked="" type="checkbox"/>
<u>Clarification Request No. 9:</u> It should be mentioned that a project management manual will be developed until the starting date of the crediting period at the latest with certain information on the project management, monitoring responsibilities, training courses etc.. Also written working instructions should be developed until this date. First examples therefore should be integrated in the PDD (if already available). All only if information is available!	D.6.1-D.6.12	The project management manual will be installed in the framework of the envisaged ISO 9001 certification (planned for 2006).	<input checked="" type="checkbox"/>
<u>Corrective Action Request No. 5:</u> In the calculation the following items are not considered and integrated or not discussed totally: <ul style="list-style-type: none"> • Own electricity consumption of the new equipment • The calculation of transport emissions will cause 	E.1.2-E.1.3	See information given under CAR 2.	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
<p>problems</p> <ul style="list-style-type: none"> Evidence for methane emissions at the landfill is not given re-traceably enough Information concerning one-direction or two-direction connection lines to the natural gas, the electricity grid is missing. <p>These aspects should be considered and, if necessary, taken into account in the GHG calculations.</p>			
<p><u>Additional Information Required No. 8:</u> A discussion concerning uncertainties should be included in the PDD.</p>	E.1.4	This discussion was integrated in the revised PDD.	<input checked="" type="checkbox"/>
<p><u>Additional Information required No. 9:</u> The environmental impact assessment should be added to the PDD as an annex. The underlying national regulations and requirements and the necessity to carry out an EIA as a basic requirement for the final approval of the project should be explained more detailed.</p>	F.115	The EIA was added as annex 7 to the PDD.	<input checked="" type="checkbox"/>
<p><u>Additional Information required No. 10:</u> This aspect of adverse environmental effects should be addressed and discussed in the PDD.</p>	F.1.3	Possible adverse environmental effects relate to “air quality”. To ensure that there will be no such effect emission will be monitored and influence on	<input checked="" type="checkbox"/>

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Draft report clarifications and corrective action requests by validation team and additional information required by validation team	Ref. to checklist	Summary of project owner response	Validation team conclusion
In comparison to flaring natural gas the combustion of husk seed can lead to a worsening of the emissions situation. It should be argued how this can be excluded.		air quality will be described in the monitoring reports.	
<u>Additional Information required No. 11:</u> Information should be given concerning the process of inviting stakeholders to comment on the project. In detail this means: <ul style="list-style-type: none"> • Publishing date, copy of information publicly given concerning the project Invitation Letter • List of participants • Summary of feedback of public consultation process (via public hearings/email) 	G.1.1-2	Details of invitation, names of invited stakeholders and reactions on the project presentation are documented in detail in chapter C of the PDD.	<input checked="" type="checkbox"/>


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Information Reference List

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Reference No.	Document or Type of Information
1.	<p>On-site interviews at project-site "OJSC Kirovogradoliya" in Kirovograd, Ukraine, conducted on April 29th by auditing team of TÜV SÜD (office of OJSC "Kirovogradoliya")</p> <p>Auditor on-site: Thomas Kleiser TÜV Industrie Service GmbH TÜV SÜD Group</p> <p>Interviewed persons: Mykola Zhovmir Senior Consultant SEC "Biomass"; Institute of Engineering Thermophysics - National Academy of Sciences of Ukraine Tetyana Zhelyezna SEC "Biomass", Project developer Mykola Demydenko Chief Power Engineer, OJSC "Kirovogradoliya" Vladimir Umrikhin Chief Engineer, OJSC "Kirovogradoliya"</p>
2.	<p>On-site interviews at landfill site of the municipality of Kirovograd on April 29th by auditing team of TÜV SÜD</p> <p>Validation team on-site: Thomas Kleiser TÜV Industrie Service GmbH TÜV SÜD Group</p> <p>Interviewed persons: Mykola Zhovmir Senior Consultant SEC "Biomass"; Institute of Engineering Thermophysics - National Academy of Sciences of Ukraine Tetyana Zhelyezna SEC "Biomass", Project developer Natalie Wladimirowna Director of municipal landfill of Kirovograd Andriuschenko</p>
3.	<p>On-site interviews at project-site "OJSC Kirovogradoliya" in Kirovograd, Ukraine, conducted on April 29th by auditing team of TÜV SÜD (plant visit)</p> <p>Auditor on-site: Thomas Kleiser TÜV Industrie Service GmbH TÜV SÜD Group</p>

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Reference No.	Document or Type of Information
	<p>Interviewed persons:</p> <p>Mykola Zhovmir Senior Consultant SEC "Biomass"; Institute of Engineering Thermophysics - National Academy of Sciences of Ukraine</p> <p>Tetyana Zhelyezna SEC "Biomass", Project developer Mykola Demydenko Chief Power Engineer, OJSC "Kirovogradoliya" Vladimir Umrikhin Chief Engineer, OJSC "Kirovogradoliya" Vladimir Shapovalov Engineer metrology</p>
4.	<p>On-site interviews at project-site "OJSC Kirovogradoliya" in Kirovograd, Ukraine, conducted on April 29th by auditing team of TÜV SÜD (technical inspection)</p> <p>Auditor on-site: Thomas Kleiser TÜV Industrie Service GmbH TÜV SÜD Group</p> <p>Interviewed persons:</p> <p>Mykola Zhovmir Senior Consultant SEC "Biomass"; Institute of Engineering Thermophysics - National Academy of Sciences of Ukraine</p> <p>Tetyana Zhelyezna SEC "Biomass", Project developer Mykola Demydenko Chief Power Engineer, OJSC "Kirovogradoliya" Vladimir Umrikhin Chief Engineer, OJSC "Kirovogradoliya" Olga Sirenko Head of hulling and winnowing division Anna Kotiuk Head of central laboratory of the plant</p>

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5.	<p>On-site interviews at project-site "OJSC Kirovogradoliya" in Kirovograd, Ukraine, conducted on April 30th by auditing team of TÜV SÜD (office of OJSC "Kirovogradoliya")</p> <p>Auditor on-site: Thomas Kleiser TÜV Industrie Service GmbH TÜV SÜD Group</p> <p>Interviewed persons: Mykola Zhovmir Senior Consultant SEC "Biomass"; Institute of Engineering Thermophysics - National Academy of Sciences of Ukraine Tetyana Zhelyezna SEC "Biomass", Project developer Mykola Demydenko Chief Power Engineer, OJSC "Kirovogradoliya" Vladimir Umrikhin Chief Engineer, OJSC "Kirovogradoliya"</p>
6.	PDD "Kirovogradoliya", April 22 nd 2005
7.	Revised and completed PDD "Kirovogradoliya", April 26 th 2005
8.	Appendix 2_Technical description of the project, dated April 25 th 2005
9.	CHP Business Plan_ENG, dated April 25 th 2005
10.	Kirovograd_CHP April 2005, dated April 25 th 2005
11.	Kirovograd_gas boiler April 2005, dated April 25 th 2005
12.	Revised PDD "Kirovogradoliya", May 17 th 2005

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13.		Appendix 1_Bussiness Plan, May 17 th 2005		
14.		Appendix 1.1_baseline scenario, May 17 th 2005		
15.		Appendix 1.1.1_baseline emissions landfill, May 17 th 2005		
16.		Appendix 1.2_project emissions, May 17 th 2005		
17.		Appendix 3:Technical description of the project, May 17 th 2005		
18.		Appendix 4: Protocol of laboratory_ash, May 17 th 2005		
19.		Appendix 5: Permission of reconstruction, May 17 th 2005		
20.		Appendix 7_EIA, June 7 th 2005		
21.		Appendix 8.1-3, Old boilers (N1-N3), June 7 th 2005		
22.		Protocol N 26.09.04 of technical meeting		
23.		Revised and completed PDD "Kirovogradoliya", June 6 th 2005		

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24.	Validator_Remarks_answers; dated June 8 th 2005
25.	Certificates for the three old boilers, June 8 th 2005
26.	Documentation of repair costs for the current equipment, submitted April 30 th 2005-06-14
27.	Invoices of payment for pollutions, submitted April 30 th 2005-06-14
28.	Specification of flue gas cleaning and related costs, submitted April 30 th 2005-06-14
29.	Monthly values (2003 and 2004) of steam production, power consumption etc.
30.	Data of periodic emissions measurement, IV. 2003
31.	Board decision on implementation of ISO 9000, November 2004
32.	Efficiency measurements for the three existing boilers, 2002
33.	Final PDD "Kirovogradoliya", submitted June 8 th 2005 (dated June 17 th 2005)
34.	Appendix 6: Expenditures of repair costs for old boilers", submitted June 6 th , 2005