



DETERMINATION REPORT

«COMPANY «MT-INVEST» LTD

DETERMINATION OF THE “REDUCTION OF POWER CONSUMPTION AND WASTE DISPOSAL AT “OBOLON” PJSC”

REPORT NO. UKRAINE-DET/0287/2011

REVISION No. 02

BUREAU VERITAS CERTIFICATION



DETERMINATION REPORT

Date of first issue: 07/06/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: «Company «MT-Invest» LTD	Client ref.: Falendysh Yaroslav

Summary:
Bureau Veritas Certification has made the determination of the «Reduction of power consumption and waste disposal at “Obolon” PJSC” project of «Company «MT-Invest» LTD located in Kiyv, Ukraine, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

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

Report No.: UKRAINE-det/0287/2011	Subject Group: JI
Project title: “Reduction of power consumption and waste disposal at “Obolon” PJSC”	
Work carried out by: Oleg Skoblyk – Team Leader, Lead Verifier, Technical Specialist Kateryna Zinevych – Team Member, Lead Verifier Denis Pishchalov – Team Member, Financial Specialist	
Work verified by: Ivan Sokolov - Internal Technical Reviewer	
Work signed by: Flavio Gomes – Operational Manager	
Date of this revision: 16/06/2011	Rev. No.: 02
Number of pages: 69	

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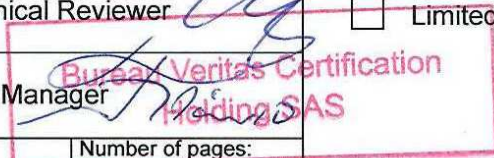




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1 INTRODUCTION

«Company «MT-Invest» LTD has commissioned Bureau Veritas Certification to determine its JI project “Reduction of power consumption and waste disposal at “Obolon” PJSC” (hereafter called “the project”) in Kyiv city, Ukraine.

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

1.1 Objective

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

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

1.2 Scope

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

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

1.3 Determination team

The determination team consists of the following personnel:

Oleg Skoblyk

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier
Technical Specialist

Kateryna Zinevych

Bureau Veritas Certification Team Member, Climate Change Lead Verifier



Denis Pishchalov
Team Member, Bureau Veritas Certification Financial Specialist

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by «Company «MT-Invest» LTD and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by a Accredited Independent Entity were reviewed.

PDD «Reduction of power consumption and waste disposal at “Obolon” PJSC” project of «Company «MT-Invest» LTD version 01 was submitted on 04/04/2011.



To address Bureau Veritas Certification corrective action, forward action and clarification requests, «Company «MT-Invest» LTD revised the PDD and resubmitted it as version 02 of 10/06/2011 which is deemed final.

The determination findings presented in this report relate to the project as described in the PDD version 01 dated 04/04/2011.

2.2 Follow-up Interviews

On 06/06/2011 Bureau Veritas Certification performed on-site visit interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of «Company «MT-Invest» LTD and “Obolon” PJSC were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
“Obolon” PJSC	<ul style="list-style-type: none"> ➤ Implementation schedule ➤ Project management organisation ➤ Evidence and records on reconstruction and new equipment and its operation ➤ Environmental Impact Assessment ➤ Project monitoring responsibilities ➤ Monitoring equipment ➤ Quality control and quality assurance procedures ➤ Environmental impacts affected ➤ Local authorities and public opinion
CONSULTANT «Company «MT-Invest» LTD	<ul style="list-style-type: none"> ➤ Applicability of methodology ➤ Baseline and Project scenarios ➤ Barriers analysis ➤ Additionality justification ➤ Common practice analysis ➤ Monitoring plan ➤ Conformity of PDD to JI requirements

2.3 Resolution of Clarification and Corrective Action Requests

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

Corrective Action Requests (CAR) is issued, where:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;



- (b) The JI requirements have not been met;
- (c) There is a risk that emission reductions cannot be monitored or calculated.

The determination team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met.

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

3 PROJECT DESCRIPTION

The main goal of the Joint Implementation project “Reduction of power consumption and waste disposal at “Obolon” PJSC” is the implementation of the integrated programme of technical and technological modernization of the company, adoption of the disposal system for organic waste of brewing, which includes both technical and organisational measures.

The adoption of actions provided for by the Project will allow to improve energy efficiency of the brewing process, reduce the amount of and assure environmentally-friendly disposal of organic waste produced during the process. At the same time this will lead to the reduction of power consumed in beer production, will allow to give up removal of organic waste to landfills and, as a result, reduce the emission of greenhouse gasses emitted in the process.

The situation at the moment of the project initiation

Considering that the plant is located in a residential district of Obolon, the company has always paid close attention to factors that could have negative effect on the environment. To reduce the amount of pollution that is emitted into the atmosphere as a result of the plant’s work, the management of “Obolon” PJSC has started the installation of the new economic and energy-efficient equipment, high technologies in brewing, bottling and delivering beer to consumers.

However, the implementation of such large-scale programme as presented in this project was impossible due to its lack of financial attractiveness (pay-back period on investment over 10 years, while costs for some investments will have never been recovered), risks associated to its implementation (the general effect from the implementation of the technological processes could be negated in case of partial



implementation or if mistakes were made during the process), unstable economic and political situation in Ukraine.

Taking into consideration the above factors, the management of the company has come to the conclusion that it is necessary to implement a programme aimed at reducing energy consumption and the amount of residual spent grain during the production of beer and implement the utilization of spent grain only in 2000, after the ratification of the Kyoto Protocol has allowed recovering a portion of the costs through the mechanisms of the Kyoto Protocol.

Prior to the implementation of the project (2000), the unit cost of heat energy for every 1000 dkl of beer was 0.85 tonnes of oil equivalent, the amount of waste produced was 1.98 tonnes per 1000 dkl.

Project scenario

The Joint Implementation Project is based on the implementation comprehensive technical and technological modernisation of the Obolon plant that received financing and was launch din 2000-2001.

Actions taken within the framework of this programme allowed the Obolon plant to reduce the specific energy consumption in the brewing process and assure environmental friendliness of the process through the utilization of all organic waste produced.

Baseline scenario

The baseline scenario envisages the further use of the installed equipment with ongoing renovation and restoration works without significant capital expenditures and maintaining the current power consumption and waste production as well as maintaining the practice, commonly used at the time, of removing waste to landfills. The grounds for the baseline scenario are described in section B.

Project history

02/06/2000 – Order #408 established at the Obolon plant a workgroup for reducing power consumption and waste production in the process of brewing and other production activities. The responsibilities of this group includes consideration of possibility and ensure that additional investment



from the mechanisms of the Kyoto Protocol. This date is the date of this project considered as a JI project.

December 2000 – start of the implementation of measures stipulated by the Project

07/04/2011 – signing of the agreement with “Company MT-Invest” (Agreement #1).

08/04/2011 – preparation and submission of PIN to the State Agency for Ecological Investments.

The tentative plan and the list of measures stipulated by the Project is listed below.

Project benefits

Besides reducing the emission of greenhouse gasses the project of the implementation of the Project has the following benefits:

- Creation of additional employment opportunities related to the installation of new equipment, technological lines and cycles;
- Reduction of the emission of harmful substances.

The implementation of the Joint Implementation project will have positive effect on the environmental and socio-economic conditions in the city of Kyiv and the region at large.

The production facilities of “Obolon” are supplied with three kinds of energy that is/was purchased from outside suppliers:

- Electric power
- Natural gas
- Steam

The main reasons for greenhouse emissions:

- Excess energy consumption as a result of: imperfections in the technological processes, use of working but outdated equipment
- Emissions due to the disintegration of sparging at dumps and storage grounds

Brief description of actions within the project frameworks:

- replacement of 1 piston compressor and 3 ammonia compressors,
- reconstruction of in-house boiler shop,
- reconstruction of brew house #2
- implementation of changes in the technological process in order to reduce the production of residual sparging,
- utilization of sparging through pressing and further use as animal feed,
- replacement of 3 ammonia compressors,



- installation of Steinecker carbon dioxide unit,
- installation of PET recycling waste,
- replacement of 1 piston air compressor and 6 ammonia compressors,
- construction and launching of brew house #4,
- replacement of 2 ammonia compressors,
- dismantling the old backwater water supply system and installation of autonomous water-cooling towers,
- replacement of 2 air compressors with new, more efficient ones,
- reconstruction of lighting system with the replacement of glow lamps with energy-saving ones,
- replacement of 2 ammonia compressors,
- launching of brew house #5,
- construction of a drying shop for sparging and utilization of biological waste,
- changing steam drying of work clothing with electric system,
- replacement of water pump at the water station,
- installation of post-treatment system for condensate at the central heating shop,
- reconstruction of brew houses #2 and #3 using energy-saving technologies,
- reducing losses during the boiling of condensate during collection and returning to the boiler shop,
- reconstruction of the hot-water supply system with the use of thermal energy from boiling at boiler shop #2,
- reconstruction of the sparging drying system with the implementation of thermal energy from boiling condensate,
- studying the possibilities and gradual implementation of the project "The use of hot water from heat-transfer apparatus at brew house #4 in production".

Chronology of the implementation:

2000 – establishment of the workgroup for developing and implementation of the

Project.

2000 – replacement of 1 piston compressor and 3 ammonia compressors.

2000 – construction of in-house boiler shop.

2001 – reconstruction of brew house #2; changing the technological process in

– implementing changes to the process in order to abate the formation of sparging;



- implementing of programme of utilization of sparging through pressing for use as animal feed.
- 2002 – replacement of 3 ammonia compressors; installation of Steinecker carbon dioxide unit.
- 2003 – installation of PET recycling line.
- 2004 – replacement of 1 piston air compressor and 6 ammonia compressors; construction and launching of brew house #4.
- 2006 – replacement of 2 ammonia compressors; dismantling of the old back water supply system and installation of autonomous water-cooling towers.
- 2007 – replacement of 2 air compressors with new, more efficient ones;
 - reconstruction of lighting system with the replacement of glow lamps with energy-saving ones;
 - replacement of 2 ammonia compressors;
 - launching brew house #5.
- 2008 – construction of a drying shop for sparging and utilization of biological waste.
- 2009 – changing steam drying of work clothing with electric system; replacement of water pump at a water station; installation of post-treatment system for condensate at the central heating shop.
- 2010 – reconstruction of brew houses #2 and #3 with implementation of energy-saving technologies;
- 2011 – reducing thermal loss from boiling condensate during collection and returning it to the boiler house;
 - reconstruction of the hot-water supply system with the use of thermal energy from boiling at boiler shop #2;
 - reconstruction of the sparging drying system with the implementation of thermal energy from boiling condensate.
- 2012 – studying the possibilities and gradual implementation of the project “The use of hot water from heat-transfer apparatus at brew house #4 in production”.

CARs (CAR01, CAR02, CAR04, CAR17), CLs (CL01, CL02, CL07) and their resolutions/conclusions applicable to project description are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

4 DETERMINATION CONCLUSIONS

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



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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 17 Corrective Action Requests and 07 Clarification Requests.

4.1 Project approvals by Parties involved (19-20)

After finishing JI project determination report, the PDD and Determination Report will be presented to State Environmental Investments Agency of Ukraine (SEIA) for receiving the Letter of Approval (LoA).

CARs (CAR03, CAR05), CL03 and their resolutions/conclusions applicable to project approvals by Parties involved are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

The project has no approvals by the Parties involved, therefore CAR05 remains pending. This CAR will be closed after report finalizing.

4.2 Authorization of project participants by Parties involved (21)

The participation of each project participant listed in the PDD will be authorized by Letter of Approval from appropriate party explicitly stating the name of the legal entity.

CAR05, CL03 and their resolutions/conclusions applicable to authorization of project participants by Parties involved are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

The project has no approvals by the Parties involved, therefore CAR05 remains pending. This CAR will be closed after report finalizing.

4.3 Baseline setting (22-26)

The PDD explicitly indicates that JI specific approach was the selected approach for identifying the baseline.

The baseline scenario has been established in accordance with Appendix B of the JI Guidelines and in accordance with the 'Guidance on Criteria for Baseline Setting and Monitoring' (Version 2) adopted at 18th Meeting of the JISC and used Methodological Tool "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0).



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

- (a) By listing and describing the following plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one:
 - a. Continuation of the existing situation;
 - b. Implementation of the proposed project activity without registering it as a JI project.
- (b) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. In this context, the following key factors that affect a baseline are taken into account:
 - Complexity of production process
 - Permanent change in price of electricity and natural gas in Ukraine.
 - Long payback period (more than 15 years).
 - Implementation of proposed project requires significant annual significant capital investments and human resources.
 - Ukraine has one of the lowest electricity tariffs in Europe. Therefore, it is really hard invest some cost for the reconstruction or the rehabilitation of the equipment.

In order to establish the baseline scenario project participants has chosen the use of JI specific approach and “Combined tool to identify the baseline scenario and demonstrate additionality” (Version 03.0.0). Default multi-project emission factors for Ukraine National Power Grid defined by National Environmental Investment Agency of Ukraine have been applied for calculation of greenhouse gases emissions.

All explanations, descriptions and analyses pertaining to the baseline in the PDD are made in accordance with the identified JI specific approach and the baseline is identified appropriately.

CAR06 and its resolution/conclusion applicable to baseline setting are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.



4.4 Additionality (27-31)

Barriers analysis and common practice analysis were used to demonstrate additionality of the project activity. All explanations, descriptions and analyses are made in accordance with the selected tool or method.

The following additionality proofs are provided:

1. there are two alternative scenarios to the project activity identified;
2. the identified financial and other barriers would credibly prevent the implementation of the proposed project activity undertaken without being registered as a JI activity;
3. the common practice analyses carried out by the PP's, complementing barrier analysis.

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

CAR07 and its resolution/conclusion applicable to additionality are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

4.5 Project boundary (32-33)

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

Reasonably attributable to the project:

- CO₂ emissions related to electric energy production for electrical grid and consumed by factory;
- CO₂ emissions related to heat production by heat supplier (JSC "Generator") and consumed by factory;
- CH₄ emissions related to utilization of organic waste.

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

The AIE determined the project boundary by:

- a) Detailed review of relevant documentation (list of all determined documents provided in "Category 2 Document" below).
- b) Interviews and observations during site visit to "Obolon" PJSC dated 06/06/2011 (list of interviewed persons provided in "Persons interviewed" below).

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

CAR08 and its resolution/conclusion applicable to project boundary are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.



4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began, and the starting date is 02/06/2000, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 25 years (300 months).

The PDD states the length of the crediting period in years and months, which is 22 years or 264 months, and its starting date as 01/01/2004, which is the date the first emission reductions or enhancements of net removals are generated by the project.

The PDD states that the crediting period for the issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project.

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

CLs (CL04, CL05) and their resolutions/conclusions applicable to crediting period are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

4.7 Monitoring plan (35-39)

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

The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as fuel saving.

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. be clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions or enhancements of net removals to be monitored such as:

1. Amount of electricity consumption
2. Amount of heat consumption

3. Amount of natural gas consumption
4. Quantity of production
5. CO2 emission factor for Ukrainian Grid

The monitoring plan draws on the list of standard variables contained in appendix B of “Guidance on criteria for baseline setting and monitoring” developed by the JISC, such as PE_y ; BE_y ; $PE_{ELEC,y}$, $PE_{HEAT,y}$, $PE_{NG,y}$, $PE_{CH4,y}$, η , $NCV_{NG,y}$, $EF_{CO2,ELEC,y}$, $HC_{PJ,y}$, $EF_{CO2,NG}$, $FC_{PJ,NG,y}$, $NCV_{NG,y}$, GWP_{CH4} , $BE_{ELEC,y}$, $BE_{HEAT,y}$, $BE_{NG,y}$, $BE_{CH4,y}$, P_y , P_{BL} , $HC_{BL,y}$, HC_{BL} , $FC_{BL,y}$, FC_{BL} , $NCV_{NG,BL}$, MCF , DOC_F .

The monitoring plan explicitly and clearly distinguishes:

(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as: $NCV_{NG,y}$, η , $F_{CO2,NG}$, MCF , DOC_F , F , R_y , OX , GWP_{CH4} , NCV_{BL} , P_{BL} , EC_{BL} , HC_{BL} , $FC_{BL,NG}$, $MSW_{T,BL}$.

(ii) Data and parameters that are monitored throughout the crediting period, such as: $EC_{PJ,y}$, $HC_{PJ,i,y}$, $FC_{PJ,NG,y}$, $MSW_{T,PJ,y}$, $MSW_{F,PJ,y}$, $EF_{CO2,ELEC,y}$, P_y .

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording depending on its kind. It is provided in comprehensive manner in Tables for the key-parameters in Section B.1. of the PDD.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate, such as:

Project emissions

$$PE_y = PE_{ELEC,y} + PE_{HEAT,y} + PE_{NG,y} + PE_{CH4,y}, \quad (1)$$

Where

PE_y = greenhouse gas emissions in the project scenario in year y , tCO₂e;

$PE_{ELEC,y}$ = greenhouse gas emissions in the project scenario related to the consumption of electric energy in year y , tCO₂e;

$PE_{HEAT,y}$ = greenhouse gas emissions in the project scenario related to the consumption of thermal energy in year y , tCO₂e;

$PE_{NG,y}$ = greenhouse gas emissions in the project scenario related to the consumption of natural gas in year y , tCO₂e;

$PE_{CH4,y}$ = greenhouse gas emissions in the project scenario related to the utilization of organic waste (sparging) during the production of beer through depositing it at landfills, tCO₂e;
 y = year for which calculations are carried out.

GHG emissions in the project scenario related to the consumption of electricity are calculated according to the approach described in the Tool to calculate baseline, project and/or leakage emissions from electricity consumption, Version 01.

$$PE_{ELEC,y} = EC_{PJ,y} \cdot EF_{CO2,ELEC,y}, \quad (2)$$

Where

$PE_{ELEC,y}$ = greenhouse gas emissions in the project scenario associated with the consumption of electric energy in year y , tCO₂e;
 $EC_{PJ,y}$ = amount of electricity consumed in the project scenario by Obolon brewery in year y , MWh;
 $EF_{CO2,ELEC,y}$ = indirect emissions of electricity consumption of electric energy consumers from the Joint Energy systems of Ukraine, tCO₂e/MWh;
 y = year for which calculations are carried out.

GHG emissions in the project scenario related to the consumption of thermal energy are calculated in accordance with the approach described in the Approved CDM methodology ACM009 Consolidated baseline and monitoring methodology for fuel switching from coal or petroleum fuel to natural gas, Version 03.2.

$$PE_{HEAT,y} = \sum \frac{HC_{PJ,i,y}}{\eta} \cdot EF_{CO2,NG} \cdot 4.1868, \quad (3)$$

Where

$PE_{HEAT,y}$ = greenhouse gas emissions in the project scenario related to the consumption of thermal energy in year y , tCO₂e;
 $HC_{PJ,i,y}$ = amount of thermal energy supplied from OJSC "Generator" for by Obolon brewery according to project scenario in year y , Gcal;
 η = efficiency coefficient of boiler-house OJSC "Generator", 0.87;
 $EF_{CO2,NG}$ = natural gas emission coefficient, tCO₂e/GJ;
 4.1868 = conversion coefficient of Gcal into GJ, Gcal/GJ;
 y = year for which calculations are carried out.

GHG emissions in project scenario related to the consumption of natural gas are calculated in accordance with approach described in Tool to calculate baseline, project and / or leakage emissions from electricity consumption, Version 02.

$$PE_{NG,y} = FC_{PJ,NG,y} \cdot NCV_{NG,y} \cdot EF_{CO2,NG} \cdot 4.1868, \quad (4)$$

Where

$PE_{NG,y}$ = gas emissions in the project scenario related to the consumption of natural gas in year y , tCO₂e;

$FC_{PJ,NG,y}$ = volume of natural gas consumed during beer production according to project scenario in year y , ths m³;

$NCV_{NG,y}$ = calorificity of natural gas used by Obolon brewery in year y , Gcal/thm m³;

$EF_{CO2,NG}$ = natural gas emission coefficient, tCO₂e/GJ;

4.1868 = conversion coefficient of Gcal into GJ, Gcal/GJ;

y = year for which calculations are carried out.

For calculating GHG emissions according to project scenario related to the utilization of organic waste from the production of beer by depositing it at landfills a typical approached described in 1996 IPCC Guidelines for National Greenhouse Gas Inventories was used.

$$PE_{CH4,y} = (MSW_{T,PJ,y} \cdot MSW_{F,PJ,y} \cdot MCF \cdot DOC \cdot DOC_F \cdot F \cdot \frac{16}{12} - R_y) \cdot (1 - OX) \cdot GWP_{CH4}, \quad (5)$$

Where

$PE_{CH4,y}$ = greenhouse gas emissions in the project scenario related to the disposal of organic waste (sparging) from beer production by depositing it at landfills in year y , tCO₂e;

$MSW_{T,PJ,y}$ = total sparging generated according to project scenario in year y , tons;

$MSW_{F,PJ,y}$ = fraction of sparging disposed to solid waste disposal sites according to project scenario in year y ;

MCF = methane correction factor (fraction);

DOC = degradable organic carbon (fraction);

DOC_F = fraction organic waste dissimilated;

F = fraction of CH₄ in landfill gas (default value 0.5);

$\frac{16}{12}$ = coefficient of conversion of carbon into methane;

R_y = recovered CH₄ in year y , tCH₄;

OX = oxidation factor, (0 as stated in 1996 IPCC);

GWP_{CH4} = potential of methane global warming, tCO₂e/tCH₄;

Y = year for which calculations are carried out.

Baseline emissions

$$BE_y = BE_{ELEC,y} + BE_{HEAT,y} + BE_{NG,y} + BE_{CH4,y}, \quad (6)$$

Where

BE_y = GHG emissions according to baseline scenario in year y, tCO₂e;

$BE_{ELEC,y}$ = baseline GHG emissions related to electric power consumption in year y, tCO₂e;

$BE_{HEAT,y}$ = baseline GHG emissions related to consumption of thermal energy in year y, tCO₂e;

$BE_{NG,y}$ = baseline GHG emissions related to the consumption of natural gas in year y, tCO₂e;

$BE_{CH4,y}$ = baseline GHG emissions related to utilization of organic waste from beer production by disposing them at landfills in year y, tCO₂e;

y = year for which calculations are carried out.

GHG emissions in baseline scenario related to the consumption of electricity are calculated according to the approach described in the Tool to calculate baseline, project and/or leakage emissions from electricity consumption, Version 01.

$$BE_{ELEC,y} = EC_{BL,y} \cdot EF_{CO2,ELEC,y}, \quad (7)$$

Where

$BE_{ELEC,y}$ = GHG emissions according to baseline scenario related to consumption of electric power in year y, tCO₂e;

$EC_{BL,y}$ = amount of electric power consumed according to baseline scenario by Obolon brewery in year y, MWh;

$EF_{CO2,ELEC,y}$ = indirect GHG emissions from consumption of electric power by consumers of electric power in Ukraine, tCO₂e/MWh;

y = year for which calculations are carried out.

$$EC_{BL,y} = P_y \cdot \frac{EC_{BL}}{P_{BL}}, \quad (8)$$

Where

$EC_{BL,y}$ = amount of electric power consumed according to baseline scenario by Obolon brewery in year y, MWh;

P_y = volumes of beer production in year y, t.dal;

P_{BL} = baseline year volumes of beer production, t.dal;

EC_{BL} = amount of electric power consumed by Obolon brewery in base year, MWh;

y = year for which calculations are carried out.

GHG emissions in the project scenario related to the consumption of thermal energy are calculated in accordance with the approach described in the Approved CDM methodology ACM009 Consolidated baseline and monitoring methodology for fuel switching from coal or petroleum fuel to natural gas, Version 03.2.

$$BE_{HEAT,BL,y} = \sum \frac{HC_{BL,y}}{\eta} \cdot EF_{CO_2,NG} \cdot 4.1868, \quad (9)$$

Where

$BE_{HEAT,BL,y}$ = baseline GHG emissions related to consumption of thermal energy by Obolon brewery in year y , tCO₂e;

$HC_{BL,y}$ = amount of thermal energy consumed by Obolon brewery in according to baseline scenario in year y , Gcal;

η = efficiency coefficient of boiler-house OJSC "Generator", 0.87;

$EF_{CO_2,NG}$ = natural gas emission coefficient, tCO₂e/GJ;

4.1868 = conversion of Gcal into GJ coefficient;

y = year for which calculations are carried out.

$$HC_{BL,y} = P_y \cdot \frac{HC_{BL}}{P_{BL}}, \quad (10)$$

Where

$HC_{BL,y}$ = amount of thermal energy used according to baseline scenario by Obolon brewery in year y , Gcal;

P_y = volumes of beer production in year y , t.dal;

P_{BL} = baseline year volumes of beer production, t.dal;

HC_{BL} = amount of thermal energy consumed by Obolon brewery in base year, Gcal;

y = year for which calculations are carried out.

GHG emissions in baseline scenario related to the consumption of natural gas are calculated according to the approach described in the Tool to calculate baseline, project and / or leakage emissions from electricity consumption result Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion, Version 02.

$$BE_{NG,y} = FC_{BL,NG,y} \cdot NCV_{NG,BL} \cdot EF_{CO_2,NG} \cdot 4.1868, \quad (11)$$

Where

$BE_{NG,y}$ = GHG emissions according to baseline scenario related to consumption of natural gas in year y , tCO₂e;

$FC_{BL,NG,y}$ = amount of natural gas consumed by Obolon brewery according to baseline scenario in year y , ths m³;

$NCV_{BL,NG}$ = calorificity of natural gas used in beer production in base year, Gcal/th³ m³;

$EF_{CO_2,NG}$ = natural gas emissions ratio, tCO₂e/GJ;

4.1868 = conversion of Gcal into GJ coefficient;

y = year for which calculations are carried out.

$$FC_{BL,NG,y} = P_y \cdot \frac{FC_{BL,NG}}{P_{BL}}, \quad (12)$$

Where

$FC_{BL,NG,y}$ = volume of natural gas used by Obolon brewery in baseline scenario year y , Gcal;

P_y = volumes of beer production in year y , t.dal;

P_{BL} = baseline year volumes of beer production, t.dal;

$FC_{BL,NG}$ = volume of natural gas used by Obolon brewery in base year, Gcal;

y = year for which calculations are carried out.

For calculating baseline scenario GHG emissions related to utilization of organic waste (sparging) through disposal at landfills was used typical approach described in 1996 IPCC Guidelines for National Greenhouse Gas Inventories was used.

$$BE_{CH_4,BL,y} = (MSW_{T,BL,y} \cdot MSW_{F,BL,y} \cdot MCF \cdot DOC \cdot DOC_F \cdot F \cdot \frac{16}{12} - R) \cdot (1 - OX) \cdot GWP_{CH_4}, \quad (13)$$

Where

$BE_{CH_4,BL,y}$ = baseline GHG emissions related to utilization of organic waste (sparging) from beer production through disposal at landfills in year y , tCO₂e;

$MSW_{T,BL,y}$ = total sparging generated according to baseline scenario in year y , tons;

$MSW_{F,BL,y}$ = fraction of sparging disposed to solid waste disposal sites according to baseline scenario in year y ;

MCF = methane correction factor (fraction);

DOC = degradable organic carbon (fraction);

DOC_F = fraction organic waste dissimilated;

F = fraction of CH₄ in landfill gas (default value 0.5);

$\frac{16}{12}$ = coefficient for converting carbon into methane;

R = recovered CH₄ in year y , tCH₄;

OX = oxidation factor (0 as stated in 1996 IPCC);

GWP_{CH_4} = potential of global warming of methane, tCO₂e/tCH₄;

y = year for which calculations are carried out.

$$MSW_{T,BL,y} = P_y \cdot \frac{MSW_{T,BL}}{P_{BL}}, \quad (14)$$

Where

$MSW_{T,BL,y}$ = total sparging generated according to baseline scenario in year y , tons;

$MSW_{T,BL}$ = total sparging generated in base year, tons;

P_y = volumes of beer production in year y , t.dal;

P_{BL} = volumes of beer production in base year, t.dal;

y = year for which calculations are carried out.

Emission reduction

GHG emissions in the project scenario associated with the consumption of thermal energy are calculated in accordance with the Approved consolidated methodology for determining baseline scenario and monitoring ACM009 Consolidated baseline and monitoring methodology for fuel switching from coal or petroleum fuel to natural gas), Version 03.2.

$$ER_y = BE_y - PE_y - LE_y, \quad (15)$$

Where

ER_y = emission reductions in year y , tCO₂e;

BE_y = baseline emissions in year y , tCO₂e;

PE_y = project emissions in year y , tCO₂e;

LE_y = leakages in year y , tCO₂e;

y = year of provided calculations.

The monitoring plan presents the quality assurance and control procedures for the monitoring process. This includes, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

Data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.



The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. The roles and responsibilities of the persons involved to monitoring process are described in full in section D.3 of PDD and vividly demonstrated on the Scheme of data collection for Monitoring Report.

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

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

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

CARs (CAR09-CAR15), CL06 and their resolutions/conclusions applicable to monitoring plan are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

4.8 Leakage (40-41)

The PDD appropriately describes an assessment of the potential Indirect external leakage of CO₂, CH₄, N₂O generated by fuel production and its transportation and appropriately explains that they are neglected.

No issues applicable to leakage were found.

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

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

The PDD provides the ex ante estimates of:

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



Year	Greenhouse gases project emission
	(tonnes of CO ₂ equivalent)
2004	97948
2005	108018
2006	132027
2007	138511
Total 2004-2007:	476504
Average number of reduction 2004-2007:	119126
2008	174821
2009	105665
2010	134807
2011	134807
2012	134807
Total 2008-2012:	684907
Average number of reduction 2008-2012:	136981
2013	134807
2014	134807
2015	134807
2016	134807
2017	134807
2018	134807
2019	134807
2020	134807
2021	134807
2022	134807
2023	134807
2024	134807
2025	134807
Total 2013-2025:	1752487
Average number of reduction 2013-2025:	134807
Total 2004-2025:	2913899
Average number of reduction 2004-2025:	132450

(b) No leakage is expected during the project activity;



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

Year	Greenhouse gases baseline emission
	(tonnes of CO ₂ equivalent)
2004	258456
2005	356401
2006	435456
2007	509007
Total 2004-2007:	1559320
Average number of reduction 2004-2007:	389830
2008	575744
2009	453830
2010	446894
2011	447138
2012	447138
Total 2008-2012:	2370744
Average number of reduction 2008-2012:	474149
2013	447138
2014	447138
2015	447138
2016	447138
2017	447138
2018	447138
2019	447138
2020	447138
2021	447138
2022	447138
2023	447138
2024	447138
2025	447138
Total 2013-2025:	5812793
Average number of reduction 2013-2025:	447138
Total 2004-2025:	9742857
Average number of reduction 2004-2025:	442857



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

Year	Estimated emission reductions
	(tonnes of CO ₂ equivalent)
2004	160508
2005	248383
2006	303429
2007	370496
Total 2004-2007:	1082815
Average number of reduction 2004-2007:	270704
2008	400922
2009	348164
2010	312088
2011	312331
2012	312331
Total 2008-2012:	1685837
Average number of reduction 2008-2012:	337167
2013	312331
2014	312331
2015	312331
2016	312331
2017	312331
2018	312331
2019	312331
2020	312331
2021	312331
2022	312331
2023	312331
2024	312331
2025	312331
Total 2013-2025:	4060306
Average number of reduction 2013-2025:	312331
Total 2004-2025:	6828958
Average number of reduction 2004-2025:	310407

Emission reductions estimation after the first commitment period

The estimates referred to above are given:

(a) On a periodic basis;

- (b) From 01/01/2004 to 31/12/2025, covering the whole crediting period;
- (c) On a source-by-source basis;
- (d) For CO₂
- (e) In tonnes of CO₂ equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol;

The formula used for calculating the estimates referred above, which is

$$ER_y = BE_y - PE_y - LE_y,$$

Where

ER_y = emission reductions in year y , tCO₂e;

BE_y = baseline emissions in year y , tCO₂e;

PE_y = project emissions in year y , tCO₂e;

LE_y = leakages in year y , tCO₂e;

y = year of provided calculations.

is consistent throughout the PDD.

Data sources used for calculating the estimates referred to above, such as:

- Statistic data on fuel and energy consumption of factory and factory production
- Default values

are clearly identified, reliable and transparent.

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

The estimates referred to above are consistent throughout the PDD.

No issues applicable to estimation of emission reductions or enhancements of net removals were found.

4.10 Environmental impacts (48)

Collection, handling and transfer of waste for utilization was carried out in accordance with the law of Ukraine "On waste".



The legal foundation for handling waste are the current legal and normative acts on environmental safety.

Production waste, depending on its physical, chemical and biological characteristics is divided into four danger classes:

- I class - extremely high-risk waste;
- II class - high-risk waste;
- III class - medium-risk waste;
- IV class - low-risk waste.

Procedures for handling waste are described in Annex 3 of this document.

In accordance with Ukrainian laws new construction projects, reconstruction and technical re-equipment, industrial and civil projects must include Environmental Impact Assessment (EIA), which main requirements are listed in the State Construction Norms of Ukraine A.2.2-1-2003.

“Obolon” PJSC has the necessary Environmental Impact Assessment of its activities in accordance with Ukrainian law.

In general the “Reduction of power consumption and waste disposal at “Obolon” PJSC” project will have positive effect on the environment. The following points will give detailed information on the positive effect on the environment:

1. The project implementation will reduce CO₂ emissions in the city of Kyiv due to more effective energy consumption. This will be achieved by implementing modern equipment and preproduction processes.

2. Due to lower fuel consumption, electricity and ecologic technologies for the utilization of organic waste, the implementation of the project will reduce emissions of SO_x, NO_x, CO and CH₄ solid particles (co-product of combustion).

No transboundary environmental impact is expected from the implementation of this project.

Impact on the aquatic environment



Impact on the aquatic environment will be the same as in the base scenario. The existing technologies used in the production of beer by the “Obolon” plant require the disposal of waste water through the drainage system with mandatory chemical control. All these actions are stipulated by the Water Code of Ukraine, State Standard 28.74-82 “Rules of hygiene and quality control”, Construction rules and regulations 4630-92 that determine the maximum concentration for internal water bodies. Disposal into open water bodies will not be done.

Project implementation will have positive effect. It will allow reducing water consumption and, as a result, lead to the reduction of waste water discharge.

Impact on ambient air

Project implementation will have positive effect on air:

- 1) Reduce the emissions of NO_x, SO_x, CO and solid particles due to the use of more environmentally clean technologies and reduction of power consumption;
- 2) Reduced consumption of electric power will lead to lower emissions of the same pollutants into the air;
- 3) Will reduce the emission of CH₄ through the utilization of organic waste.

Effects on land use

There will be no effect on land/soil.

The corresponding law on land use is stated in the Land Code of Ukraine. The National technological practice/standard: State Standard 17.4.1.02-83 “Protection of nature, soil. Classification of chemicals for controlling pollution”.

Impact on biodiversity

There will be no impact on biodiversity.

Generation of waste, waste discharge and handling

Generation of waste, waste discharge and handling are present. In the process of project implementation waste will be generated after the collection of physically and morally outdated equipment, burners, pipes etc. There will be construction waste as a result of dismantling of boilers and construction of boiler shops and others.



Collection, handling and transfer of waste for utilization of the enterprise's waste will be carried out in accordance with the law of Ukraine "On waste".

Handling procedures are described in Annex 3 of this document.

Conclusions concerning the most significant environmental impacts from implementation of activities under this project are presented in the Environmental Impact Assessment (EIA), obtained according to state building codes of Ukraine A.2.2-1-2003:

- Conclusion of the State Environmental Review in the city of Kyiv # 26/07-12-2010-0001 from 10.01.2011. Registered 10.01.2011 # 04-14/981. The reconstruction project of property complex for improving productivity "Obolon" PJSC;
- Conclusion of the State Environmental Review in the city of Kyiv # 133 from 15.06.2004 # 08-8-10/2217. "Reconstruction of the enterprise for increasing beer production capacity";
- Conclusion of the State Environmental Review in the city of Kyiv # 107 from 29.04.2005 # 06-6-16/1535. "Reconstruction of sewage runoff";
- Conclusion of the State Environmental Review in the city of Kyiv # 181 from 14.09.1998 # 08-8-10/2738. "Reconstruction of the "Obolon" plant with increasing beer production".

"Obolon" PJSC is certified according to ISO-14001:2004 and OHSAS-18001 systems, which supports the ability and desire of the company to manage its impact on the environment.

CAR16 and its resolution/conclusion applicable to environmental impacts are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

4.11 Stakeholder consultation (49)

No stakeholders' comments were received.

4.12 Determination regarding small scale projects (50-57)

Not applicable



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

Not applicable

4.14 Determination regarding programmes of activities (65-73)

Not applicable

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

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

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the “Reduction of power consumption and waste disposal at “Obolon” PJSC” project of «Company «MT-Invest» LTD located in Kyiv, Ukraine. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/s used the latest “Combined tool to identify the baseline scenario and demonstrate additionality”. In line with this tool, the PDD provides barrier analysis and common practice analysis, to determine that the project activity itself is not the baseline scenario.

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

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party. If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 02 meets all the relevant UNFCCC



requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 02) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

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

7 REFERENCES

Category 1 Documents:

Documents provided by «Company «MT-Invest» LTD that relate directly to the GHG components of the project.

- /1/ PDD «Reduction of power consumption and waste disposal at «Obolon» PJSC» project of «Company «MT-Invest» LTD version 01 dated 04/04/2011
- /2/ PDD «Reduction of power consumption and waste disposal at «Obolon» PJSC» project of «Company «MT-Invest» LTD version 02 dated 10/06/2011
- /3/ Obolon_v.2.xls – excel file

Category 2 Documents:

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

- /1/ Decree of Cabinet of Ministers of Ukraine #206, dated 22/02/2006
- /2/ Joint Implementation Project Design Document Form, version 01
- /3/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.
- /4/ JISC Guidance on criteria for baseline setting and monitoring. Version 02.
- /5/ “Combined tool to identify the baseline scenario and demonstrate additionality” (Version 03.0.0)
- /6/ Glossary of Joint Implementation Terms, Version 03.
- /7/ Decree #43 on approval of indexes of specific carbon dioxide emissions in the year 2010 issued by NEIA dated 28.03.2011.
- /8/ Decree #62 on approval of indexes of specific carbon dioxide emissions in the year 2008 issued by NEIA dated 15.04.2011.
- /9/ Decree #63 on approval of indexes of specific carbon dioxide emissions in the year 2009 issued by NEIA dated 15.04.2011.
- /10/ Decree #75 on approval of indexes of specific carbon dioxide emissions in the year 2011 issued by NEIA dated 12.05.2011.



- /11/ 2 transfer certificates of permanent assets dated 14.03.2008
- /12/ 2 transfer certificates of permanent assets dated 2006
- /13/ 2 transfer certificates of permanent assets dated 2007
- /14/ 2 transfer certificates of permanent assets dated 26.06.2007
- /15/ 3 statements on equipment putting into operation dated 28.10.2009
- /16/ 3 transfer certificates of permanent assets dated 08.10.2007
- /17/ Acceptance statement for constructed object of gas supply dated 04.06/1999
- /18/ Annex IO. Statement of acceptance of gas equipment for carrying out the complex probation (operational and verification testing) dated 21.06.2007
- /19/ Application of department chief for education of some categories of personnel of CJSC "Obolon" in 2011. Approved on 28.12.2010
- /20/ Article in the newspaper "Kyivska Pravda"
- /21/ Assignment for design, production and assembling of assembling station and return of condensate after facilities for sparging dehydration dated 26.10.2010
- /22/ Conclusion №142 (positive) of state ecological expertise dated 10.09.1999
- /23/ Conclusion №220 (positive) of state ecological expertise dated 14.09.1998
- /24/ Conclusion №26/07.12.2010-0001 dated 10.01.2011 of state ecological expertise
- /25/ Conclusion of state ecological expertise №107 dated 29.04.2005
- /26/ Conclusion of state ecological expertise №133 dated 15.06.2004
- /27/ Conclusion of state ecological expertise №133 dated 15.06.2004
- /28/ Conclusion of state ecological expertise №347 dated 23.012.2003
- /29/ Contract №2007 3995 05 dated 25.07.2007
- /30/ Contract №3 dated 26.10.2010
- /31/ Contract №60 on supply of malt and brewing production wastes dated 03.01.2007
- /32/ Contract №61 on supply of malt and brewing production wastes dated 01.01.2007
- /33/ Contract №670 dated 14.07.2003 on electric power supply
- /34/ Contract №74.1001/03 dated 10.01.2003
- /35/ Contract №74.1612/05 - 5SL dated 16.12.2005
- /36/ Contract №74.2907-ERG - 5SL dated 29.09.2009
- /37/ Contract №806/107 on supply of malt and brewing production wastes dated 12.12.2006
- /38/ Documents that substantiate wastes amount, that are necessary for receiving the permission for pollutants emission into the atmospheric air from stationary sources dated 03.09.2008
- /39/ Hangover protocol for boiling amount from 27.01.2009 until 03.02.2009
- /40/ Hangover-takeover protocol on recuperation and vacuum evaporation facilities dated 16.09.2010
- /41/ Hangover-takeover protocol. Boiling order №4 dated 07.04.2009
- /42/ Letter №06.07/3252/905 dated 20.05.2011 about relegalization of permission for pollutants wastes
- /43/ Limit №040020/04 for wastes production and placing for 2003
- /44/ Limit №040020/04 for wastes production and placing for 2004
- /45/ Limit №040020/04 for wastes production and placing for 2005
- /46/ List of compressors of cooling-booster station for 01.01.2011



- /47/ List of documents related to technological equipment that is contained in the boundary of project "Reduction of power consumption and waste disposal at "Obolon" PJSC", that justify the property of PJSC "Obolon" and legal usage and according to which JI project will be realized
- /48/ Multifunctional electric meter EPQS 122.21.18LL. Reg.№623630. Passport
- /49/ Passport of boiler SEOG-604 Reg.№B-6296
- /50/ Permission for object operation beginning №3538.07.30-15.96.0 from 12.12.2007 until 12.12.2010
- /51/ Permission №040020 (12017) for pollutants emission into the atmospheric air from stationary sources dated 20.09.2004
- /52/ Permission №040020 for pollutants emission into the atmospheric air from stationary sources dated 01.07.2005
- /53/ Permission №12017 for pollutants emission into the atmospheric air from stationary sources dated 20.11.2001
- /54/ Permission №12017-040020 for pollutants emission into the atmospheric air from stationary sources dated 05.04.2004
- /55/ Permission №8038000000-003 for pollutants emission into the atmospheric air from stationary sources dated 19.05.2011
- /56/ Permission №8038000000-003 for pollutants emission into the atmospheric air from stationary sources dated 25.09.2008
- /57/ Permission №8038000000-003 for wastes placing in 2009 dated 13.05.2008
- /58/ Permission №8038000000-003 for wastes placing in 2011 dated 14.06.2010
- /59/ Permissions for pollutants emission into the atmospheric air from stationary sources for 2003-2005
- /60/ Photo. Ammoniac compressor SAB 233. Ив.№827422
- /61/ Photo. Ammoniac cooling station
- /62/ Photo. Compressor 2BM-27/9M2. Inv.№516791
- /63/ Photo. Compressor SAB 202 SM Inv.№525055
- /64/ Photo. Compressor SSRML-200-2S VFD Inv.№827421
- /65/ Photo. Condenser NK273/4000-4W. Registration №94
- /66/ Photo. Evaporating condenser. Inv.№803248
- /67/ Photo. Filtration department of fermentation workshop. Boiling workshop
- /68/ Photo. Granular sparging cooling department.
- /69/ Photo. KhKTs Senior Foreman room
- /70/ Photo. Leading ecology engineer's room
- /71/ Photo. List of protecting sets Champion Super
- /72/ Photo. Sanitary inspector's room. Radiology laboratory.
- /73/ Photo. Scheme of CJSC "Obolon" carbonic station reconstruction
- /74/ Photo. Scheme of CO2 supply of general production workshops OTEX-113.ОПП.00-TX
- /75/ Positive conclusion of complex state expertise of project "Reconstruction of enterprise for capacity increasing to 70 million dal of beer per year and construction of administrative and laboratory building on Bogatyrska street, 3 in Obolonskyy region, Kyiv" dated 13.06.2004
- /76/ Project "Reconstruction of brewing production 1st order of design". Kyiv 2003
- /77/ Protocol №598904 of parametrization and validation of devices differentiated by the periods of electric power consumption accounting dated 15.12.2008



- /78/ Protocol of testing of complex automatic line of beer and beer cocktails bottling according to the order №505/0/3-08 dated 17.09.2008
- /79/ Report #15/1/7-97 dated 28/09/2009 State inspection of energy saving
- /80/ Report on results of fuel, heat and electric power usage for 2004 dated 10.01.2005
- /81/ Report on results of fuel, heat and electric power usage for 2005 dated 11.01.2006
- /82/ Report on results of fuel, heat and electric power usage for 2006 dated 05.01.2007
- /83/ Report on results of fuel, heat and electric power usage for 2007 dated 08.01.2008
- /84/ Report on results of fuel, heat and electric power usage for 2008 dated 14.01.2009
- /85/ Report on results of fuel, heat and electric power usage for 2009 dated 15.01.2010
- /86/ Report on results of fuel, heat and electric power usage for 2010 dated 17.01.2011
- /87/ Scheme of CJSC "Obolon" general layout
- /88/ State statistic supervisory. Wastes treatment in 2010 dated 18.02.2011
- /89/ Statement №88/9 of hangover-takeover of commodity output for September 2010
- /90/ Statement №88/9/1 on providing services related to reactive power flow-over compensation for September 2010
- /91/ Statement of erection supervision work carried out according to the contract №74.0507/06-CHM dated 27.02.2007
- /92/ Statement of erection supervision work carried out according to the contract №74.2907-ERG-CHM dated 15.12.2009
- /93/ Statement on beginning of dehydration and sparging granulation equipment operation dated 29.02.2008
- /94/ Statement on equipment putting into operation dated 10.11.2008
- /95/ Statement on introduction into operation and examination of 3rd order of TsKT control system dated 05.07.2006
- /96/ Statement on validation and putting into operation of TsKT third order controlling system dated 03.07.2009
- /97/ Statements on delivery of equipment into operation dated 28.10.2009
- /98/ Transfer certificate of permanent assets. Pump WILO ASP 200 CS 132/4
- /99/ Wastes and package materials accounting. Typical form N 1-BT started in January 2009



Persons interviewed:

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

- /1/ Ivan Gorban – Technical Director
- /2/ Sergiy Pustovit – Leading Energy Management
- /3/ Svitlana Bashmakova – Senior Engineer on Environmental Protection
- /4/ Oleksandr Solomenko – Head-refrigerating compressor plant
- /5/ Anatoliy Zakrevskiy – Chief power engineer
- /6/ Evgen Zuravliov – Director on Ecology projects

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APPENDIX A: DETERMINATION PROTOCOL

Table 1 Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
General description of the project				
Title of the project				
-	Is the title of the project presented?	Reduction of power consumption and waste disposal at "Obolon" PJSC	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Scope #3: Energy demand Scope #13: Waste handling and disposal <u>Corrective Action Request (CAR) 17:</u> The proposed project activity not related to the scope #2. Please correct.	CAR17	OK
-	Is the current version number of the document presented?	PDD version number: 02	OK	OK
-	Is the date when the document was completed presented?	Data of Completion: 10/06/2011	OK	OK
Description of the project				
-	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description)?	<u>Corrective Action Request (CAR) 01:</u> Please use in the PDD font size provided «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01.	CAR01	OK
-	Is the history of the project (incl. its JI component) briefly summarized?	Yes, brief description of project history provided.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project participants				
-	Are project participants and Party(ies) involved in the project listed?	Project participants and parties listed in the table in section A.3 of PDD. Parties Project: Ukraine (host country).	OK	OK
-	Is the data of the project participants presented in tabular format?	<u>Corrective Action Request (CAR) 02:</u> Table A.3 in the PDD must be submitted in a format that provided in the version 04 of the "Guidelines for users of the JI PDD form".	CAR02	OK
-	Is contact information provided in Annex 1 of the PDD?	<u>Corrective Action Request (CAR) 03:</u> "Company "MT-Invest" Ltd. Is not Project Participant. Please exclude information about it from Annex 1.	CAR03	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Yes, Ukraine is a host Party	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine	OK	OK
-	Region/State/Province etc.	The project is located in the Kyiv oblast	OK	OK
-	City/Town/Community etc.	Kyiv city	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	The Obolon plant is located in the Obolon district of the city of Kyiv. <u>Clarification Request (CL) 07:</u> In PDD indicated only the coordinates of Kyiv. Please specify geographic coordinates of Obolon.	CL07	OK
Technologies to be employed, or measures, operations or actions to be implemented by the project				
-	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	List and brief description of mesures to be implemented by the project provided in section A.4.2 of PDD.	OK	OK
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and				



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
circumstances				
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	<u>Corrective Action Request (CAR) 04:</u> Clarification how anthropogenic GHG emission reductions are to be achieved is not provided. Please correct.	CAR04	OK
-	Is it provided the estimation of emission reductions over the crediting period?	<u>Clarification Request (CL) 01:</u> Please include in this section refer to the corresponding «Excel» file with the calculations. <u>Clarification Request (CL) 02:</u> Please number the tables with information of the estimates (calculations) of emission reductions.	CL01 CL02	OK OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO ₂ e?	Yes, the estimated annual reduction for the chosen credit period in tCO ₂ e is provided.	OK	OK
-	Are the data from questions above presented in tabular format?	Yes.	OK	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period Indicated?	Yes, leight of crediting period is 22 years (264 months).	OK	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO ₂ equivalent provided?	Yes, estimates of total as well as annual and average annual emission reductions in tonnes of CO ₂ equivalent provided in section A.4.3.1 of PDD.	OK	OK
Project approvals by Parties				
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	<u>Clarification Request (CL) 03:</u> Section A.5 PDD must specify the names of DFPs (parties involved) that will approve the project.	CL03	OK
19	Does the PDD identify at least the host Party as a "Party involved"?	Yes, Ukraine is the Host Party.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	<u>Corrective Action Request (CAR) 05:</u> No Letters of Approval of the project issued by the parties involved.	CAR05	
20	Are all the written project approvals by Parties involved unconditional?	See CAR05 above.	OK	OK
Authorization of project participants by Parties involved				



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: – A written project approval by a Party involved, explicitly indicating the name of the legal entity? or – Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	See CAR05 above.	OK	OK
Baseline setting				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? – JI specific approach – Approved CDM methodology approach	PDD describes the JI specific approach used to identify the baseline scenario. <u>Corrective Action Request (CAR) 06:</u> Please provide date of baseline setting according required format DD/MM/YYYY.	CAR06	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	Yes, the PDD provide a detailed theoretical description in a complete and transparent manner.	OK	OK
23	Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? – Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the	In the PDD in a reasonable way showed that the baseline was determined by compiling a listing and description of real scenarios of future scenarios based on conservative assumptions and subsequent selection the most attractive of these scenarios.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	choice of approaches, assumptions, methodologies, parameters, data sources and key factors? (d) Taking into account of uncertainties and using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?			
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	To determine the baseline scenario and demonstrate additionality used "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0).	OK	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	For baseline emissions calculations were used CO2 emission factor for the projects of reducing electricity consumption from Ukraine electricity network, emission factor for natural gas and global warming potential of methane. All factors are justified.	OK	OK
Approved CDM methodology approach only				
26 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
26 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	revised to a newer version in the past two months)?			
26 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	OK	OK
26 (c)	Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	N/A	OK	OK
26 (d)	Is the baseline identified appropriately as a result?	N/A	OK	OK
Additionality				
Jl specific approach only				
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used? (a) Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for	In section B.1 of the PDD was provided the analysis of project additionality, which aims to demonstrate that the project scenario is not part of the specified baseline, and that the project will achieve GHG emissions reductions against to baseline. The analysis was performed based on the latest version of "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0), which was approved by the CDM Executive Board and fully applied to JI projects.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	proving additionality approved by the CDM Executive Board".			
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	Barriers analysis and common practice analysis which applied are widely used for additionality demonstration of the project activity.	OK	OK
29 (b)	Are additionality proofs provided?	Yes, justification of additionality provided in section B.1 of PDD.	OK	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	Corrective Action Request (CAR) 07: In the PDD does not specify how the registration of this project as JI project will help overcome identified barriers.	CAR07	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	All explanations, descriptions and analyses made in accordance with the "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0).	OK	OK
Approved CDM methodology approach only				
31 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	N/A	OK	OK
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance with the selected methodology?	N/A	OK	OK
31 (d)	Are additionality proofs provided?	N/A	OK	OK
31 (e)	Is the additionality demonstrated appropriately as a result?	N/A	OK	OK
Project boundary (applicable except for JI LULUCF projects)				
JI specific approach only				
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are:	Corrective Action Request (CAR) 08: Determined monitoring plan includes calculations of GHG emissions associated with utilizations of organic waste in	CAR08	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	project scenario. But these emissions are absence in table 4 of PDD. Please correct or explain.		
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	Yes, the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above.	OK	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	Yes, project boundary represented in scheme form on Pic. 3.1 and Pic. 3.2 and in tabular form in Table 4.	OK	OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	See CAR06 above.	OK	OK
Approved CDM methodology approach only				
33	Is the project boundary defined in accordance with the approved CDM methodology?	N/A	OK	OK
Crediting period				
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	02/06/2000 – Order #408 established at the Obolon plant a workgroup for reducing power consumption and waste production in the process of brewing and other production activities.	OK	OK
34 (a)	Is the starting date after the beginning of 2000?	Yes.	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	25 years (300 months)	OK	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	22 years (264 months)	OK	OK
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	Yes, starting date of the crediting period is after the date the first emission reductions are generated.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	<u>Clarification Request (CL) 04:</u> Please specify that the crediting period of ERUs generating started after the beginning of 2008 and continuing over the life cycle.	CL04	OK
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	<u>Clarification Request (CL) 05:</u> Please specify that crediting period extension beyond 2012 requires approval by the Host country.	CL05	OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? – JI specific approach – Approved CDM methodology approach	JI specific approach was used.	OK	OK
JI specific approach only				
36 (a)	Does the monitoring plan describe: – All relevant factors and key characteristics that will be monitored? – The period in which they will be monitored? – All decisive factors for the control and reporting of project performance?	<u>Corrective Action Request (CAR) 09:</u> In calculations was used constant NCV 8.2 Gcal/th ³ m ³ . But analysis of documentation showed that NCV of natural gas is variable value. Please correct or clarify.	CAR09	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	<u>Clarification Request (CL) 06:</u> Please specify how determined efficiency coefficient of boiler-house OJSC "Generator".	CL06	OK
36 (b)	If default values are used: – Are accuracy and reasonableness carefully balanced in their selection? – Do the default values originate from	<u>Corrective Action Request (CAR) 10:</u> Not all needed sources and references were provided. Please correct.	CAR10	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	<p>recognized sources?</p> <ul style="list-style-type: none"> – Are the default values supported by statistical analyses providing reasonable confidence levels? – Are the default values presented in a transparent manner? 			
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	Yes. All procedures of selection and justification of necessary values are described.	OK	OK
36 (b) (ii)	<p>For other values,</p> <ul style="list-style-type: none"> – Does the monitoring plan clearly indicate the precise references from which these values are taken? – Is the conservativeness of the values provided justified? 	<p><u>Corrective Action Request (CAR) 11:</u> Please specify who is responsible for providing actual value of CO2 emission factor for the projects of reducing electricity consumption by Ukraine consumers.</p>	CAR11	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	<p><u>Corrective Action Request (CAR) 12:</u> Please indicate in PDD that the data monitored and required for the project determination will be kept for two years after the last transfer of ERUs the project.</p> <p><u>Corrective Action Request (CAR) 13:</u> Brewery Obolon produces soft drinks and mineral water besides the production of beer. But under the proposed monitoring plan all calculations are performed only to brewed beer. Please clarify or correct.</p>	<p>CAR12</p> <p>CAR13</p>	<p>OK</p> <p>OK</p>
36 (b) (iv)	Are International System Unit (SI units) used?	No.	OK	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	Yes, value of beer production and CO2 emission factor for the projects of reducing electricity consumption by Ukrainian consumers used to calculate baseline emissions but are obtained through monitoring.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients,	Yes, use of parameters, coefficients, variables, etc. is	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	variables, etc. consistent between the baseline and monitoring plan?	consistent between the baseline and monitoring plan.		
36 (c)	Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	Yes monitoring plan developed in line with "Guidance on criteria for baseline setting and monitoring".	OK	OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored throughout the crediting period?	Yes, all relevant parameters are described (see section D.1 of PDD).	OK	OK
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	The table in section D.1.1 PDD defined time (regularity) of monitoring and information sources with respect to all parameters and data to be monitored.	OK	OK
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	In the PDD described and explained all the algorithms and formulas used to calculating emissions for the baseline and project scenarios.	OK	OK
36 (f) (i)	Is the underlying rationale for the	Yes, all necessary algorithms and formulae are clearly	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	algorithms/formulae explained?	described.		
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Yes, all variables, equation format, subscripts etc. used consistent.	OK	OK
36 (f) (iii)	Are all equations numbered?	Yes.	OK	OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Yes, analysis of supporting document justified conservativeness of the algorithms/procedures of monitoring.	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	The level of uncertainty of data specified in the table of quality control and quality assurance procedures (see Section D.2 PDD). Taken into account that all used most of data and parameters are defined based on statistic data and results of measurements by calibrated measuring equipment with the relevant accuracy and crosschecked by energy resouces supplier and state authorities their level of uncertainty is defined as low.	OK	OK
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	Yes.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	No, all algorithms and formulas clearly explained	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	Yes.	OK	OK
36 (f) (vii)	Are references provided as necessary?	See CAR09 above.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Yes, all implicit and explicit assumptions explained in a transparent manner.	OK	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such	Used assumptions and procedures not have significant uncertainty.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	uncertainty is to be addressed?			
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	Uncertainty range was defined as low.	OK	OK
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	All monitoring standards that used in proposed monitoring plan are commonly used in Ukraine for energy consumption metering.	OK	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	See CAR08 above.	OK	OK
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	The quality assurance and control procedures described in section D.2 of PDD.	OK	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	Yes, the responsibilities and the authority regarding the monitoring activities are clearly identified in section D.3 of PDD.	OK	OK
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	Corrective Action Request (CAR) 14: Section D.1.5 of the PDD requires from project participants to submit information about collection and archiving data on the environment impact as well as references to relevant norms of the host country. Please provide relevant data.	CAR14	OK
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that	Yes, all used parameters presented in sections D.1.1.1 and D.1.1.3 of PDD.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?			
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	See CAR11 above.	OK	OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	No any selected elements or combinations of approved CDM methodologies or methodological tools used in monitoring plan.	OK	OK
Approved CDM methodology approach only				
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
38 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	OK	OK
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	OK	OK
38 (c)	Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with the referenced approved CDM	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	methodology?			
38 (d)	Is the monitoring plan established appropriately as a result?	N/A	OK	OK
Applicable to both JI specific approach and approved CDM methodology approach				
39	<p>If the monitoring plan indicates overlapping monitoring periods during the crediting period:</p> <p>(a) Is the underlying project composed of clearly identifiable components for which emission reductions or enhancements of removals can be calculated independently?</p> <p>(b) Can monitoring be performed independently for each of these components (i.e. the data/parameters monitored for one component are not dependent on/effect data/parameters to be monitored for another component)?</p> <p>(c) Does the monitoring plan ensure that monitoring is performed for all components and that in these cases all the requirements of the JI guidelines and further guidance by the JISC regarding monitoring are met?</p> <p>(d) Does the monitoring plan explicitly provide for overlapping monitoring periods of clearly defined project components, justify its need and state how the conditions mentioned in (a)-(c) are met?</p>	There are no overlapping monitoring periods during the crediting period.	OK	OK
Leakage				
JI specific approach only				
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	No leakage is expected in proposed project activity.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	No leakage is expected in proposed project activity.	OK	OK
Approved CDM methodology approach only				
41	Are the leakage and the procedure for its estimation defined in accordance with the approved CDM methodology?	N/A	OK	OK
Estimation of emission reductions or enhancements of net removals				
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario (b) Direct assessment of emission reductions	Assessment of emissions or net removals in the baseline scenario and in the project scenario was used.	OK	OK
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	Emissions for the project, baseline scenario and emission reductions were ex ante estimated. Results of estimations provided in section E of PDD and excel spreadsheets.	OK	OK
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	N/A	OK	OK
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given: (i) On a periodic basis?	Corrective Action Request (CAR) 15: Analysis of 11-MPT form showed that value of heat supplied by boiler-house OJSC "Generator" presented in this form	CAR15	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	<p>(ii) At least from the beginning until the end of the crediting period?</p> <p>(iii) On a source-by-source/sink-by-sink basis?</p> <p>(iv) For each GHG?</p> <p>(v) In tones of CO₂ equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?</p> <p>(b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD?</p> <p>(c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate?</p> <p>(d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent?</p> <p>(e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?</p> <p>(f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner?</p> <p>(g) Are the estimates in 43 or 44 consistent throughout the PDD?</p> <p>(h) Is the annual average of estimated</p>	<p>and value used in calculations are different. Please clarify/correct.</p>		



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?			
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation?	Yes, the PDD include an illustrative ex ante emissions calculation.	OK	OK
Approved CDM methodology approach only				
47 (a)	Is the estimation of emission reductions or enhancements of net removals made in accordance with the approved CDM methodology?	N/A	OK	OK
47 (b)	Is the estimation of emission reductions or enhancements of net removals presented in the PDD: <ul style="list-style-type: none"> – On a periodic basis? – At least from the beginning until the end of the crediting period? – On a source-by-source/sink-by-sink basis? – For each GHG? – In tones of CO₂ equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? – Are the formula used for calculating the estimates consistent throughout the PDD? – Are the estimates consistent throughout the PDD? – Is the annual average of estimated emission reductions or enhancements of net removals 	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?			
Environmental impacts				
48 (a)	Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	Corrective Action Request (CAR) 16: There is no information on transboundary impacts in the PDD.	CAR16	OK
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	No significant environmental impacts related to project implementation expected. Therefore separate environmental impact assessment is not required.	OK	OK
Stakeholder consultation				
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	Procedures of Ukraine did not require consultations with stakeholders for proposed project. However, information on implementation measures of reducing technological power consumption provided in the media and in electronic media (see section G of PDD). No negative stakeholders' comments were received on company adress.	OK	OK
Determination regarding small-scale projects (additional elements for assessment)				
50	Does the PDD appropriately specify and justify the SSC project type(s) and category(ies) that	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	fall under: (a) One of the types and thresholds of JI SSC projects as defined in .Provisions for joint implementation small-scale projects.? If the project contains more than one JI SSC project type component, does each component meet the relevant threshold criterion? (b) One of the SSC project categories defined in the most recent version of appendix B of annex II to decision 4/CMP.1, or an additional project category approved by the JISC in accordance with the relevant provision in "Provisions for joint implementation small-scale projects"?			
51	Does the SSC PDD confirms and shows that the proposed JI SSC project is not a debundled component of a large project by explaining that there does not exist a JI (SSC) project with a publicly available determination in accordance with paragraph 34 of the JI guidelines: (a) Which has the same project participants; and (b) Which applies the same technology/measure and pertains to the same project category; and (c) Whose determination has been made publicly available in accordance with paragraph 34 of the JI guidelines within the previous 2 years; and (d) Whose project boundary is within 1 km of the project boundary of the proposed JI SSC project at the closest point?	N/A	OK	OK
Applicable to bundled JI SSC projects only				



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



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	SSC PDDs for the bundled JI SSC projects, do(are) all the projects: (a) Have SSC PDDs been prepared for all JI SSC projects in the bundle? (b) Does each SSC PDD contain a single JI SCC project in the bundle?			
55	If the projects in the bundle use the same baseline, does the F-JI-SSC-BUNDLE provide an appropriate justification for the use of the same baseline considering the particular situation of each project in the bundle?	N/A	OK	OK
56	Does the PDD indicate which of the following approaches is used for establishing a monitoring plan? (a) By preparing a separate monitoring plan for each of the constituent projects; (b) By preparing an overall monitoring plan including a proposal of monitoring of performance of the constituent projects on a sample basis, as appropriate.	N/A	OK	OK
56 (b)	If the approach 57 (b) above is used, (i) Are all the JI SSC projects located in the territory of the same host Party? (ii) Do all the JI SSC projects pertain to the same project category? (iii) Do all the JI SSC projects apply the same technology or measure? (iv) Does the overall monitoring plan reflect good monitoring practice appropriate to the bundled JI SSC projects and provide for collection and archiving of the data needed to calculate the emission reductions achieved by the bundled projects?	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Applicable to all JI SSC projects				
57	Is the leakage only within the boundaries of non-Annex I Parties considered?	N/A	OK	OK
Determination regarding land use, land-use change and forestry projects (additional/alternative elements for assessment)				
58	Does the PDD appropriately specify how the LULUCF project conforms to: (a) The definitions of LULUCF activities included in paragraph 1 of the annex to decision 16/CMP.1, applying good practice guidance for LULUCF as decided by the CMP, as appropriate? (b) In the case of afforestation, reforestation and/or forest management projects, the definition of "forest" selected by the host Party, which specifies: (i) A single minimum tree crown cover value (between 10 and 30 per cent)? and (ii) A single minimum land area value (between 0.05 and 1 hectare)? and (iii) A single minimum tree height value (between 2 and 5 metres)?	N/A	OK	OK
JI specific approach only				
59	Baseline setting - in addition to 22-26 above Does the PDD provide an explanation how the baseline chosen: – Takes into account the good practice guidance for LULUCF, developed by the IPCC? – Ensures conformity with the definitions, accounting rules, modalities and guidelines under Article 3, paragraphs 3 and 4, of the Kyoto Protocol?	N/A	OK	OK
60	Project boundary - alternative to 32-33	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	<p>(a) Does the project boundary geographically delineate the JI LULUCF project under the control of the project participants?</p> <p>(a) If the JI LULUCF project contains more than one discrete area of land,</p> <p>(i) Does each discrete area of land have a unique geographical identification?</p> <p>(ii) Is the boundary defined for each discrete area?</p> <p>(ii) Does the boundary not include the areas in between these discrete areas of land?</p> <p>(b) Does the project boundary encompass all anthropogenic emissions by sources and removals by sinks of GHGs which are:</p> <p>(i) Under the control of the project participants;</p> <p>(ii) Reasonably attributable to the project; and</p> <p>(iii) Significant?</p> <p>(c) Does the project boundary account for all changes in the following carbon pools:</p> <ul style="list-style-type: none"> - Above-ground biomass; - Below-ground biomass; - Litter; - Dead wood; and - Soil organic carbon? <p>(c) Does the PDD provide:</p> <p>(i) The information of which carbon pools are selected?</p> <p>(ii) If one or more carbon pools are not selected, transparent and verifiable information that indicates, based on conservative assumptions, that the pool is not a source?</p> <p>(d) Is the project boundary defined on the basis of a case-by-case assessment with regard to</p>			



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the criteria in (b) above?			
61 (a)	Project boundary - alternative to 32-33 (cont.) Are the delineation of the project boundary and the gases and sources/sinks included appropriately described and justified in the PDD?	N/A	OK	OK
61 (b)	Project boundary - alternative to 32-33 (cont.) Are all gases and sources/sinks included explicitly stated, and the exclusions of any sources/sinks related to the baseline or the LULUCF project appropriately justified?	N/A	OK	OK
62	Monitoring plan - in addition to 35-39 Does the PDD provide an appropriate description of the sampling design that will be used for the calculation of the net anthropogenic removals by sinks occurring within the project boundary in the project scenario and, in case the baseline is monitored, in the baseline scenario, including, inter alia, stratification, determination of number of plots and plot distribution etc.?	N/A	OK	OK
63	Does the PDD take into account only the increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of GHGs outside the project boundary?	N/A	OK	OK
Approved CDM methodology approach only				
64 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
64 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology	N/A	OK	OK



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



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(d) A description of each type of JPAs that will be included in the JI PoA, including the technology or measures to be used? (e) The eligibility criteria for inclusion of JPAs to the JI PoA for each type of JPA in the JI PoA?			
67	<i>Project approvals by Parties involved - additional to 19-20</i> Are all Parties partly or entirely within the geographical boundary for the JI PoA listed as "Parties involved" and indicated as host Parties in the PDD?	N/A	OK	OK
68	<i>Authorization of project participants by Parties involved - additional to 21</i> Is the coordinating entity presented in the PDD authorized by all host Parties to coordinate and manage the JI PoA?	N/A	OK	OK
69	<i>Baseline setting - additional to 22-26</i> Is the baseline established for each type of JPA?	N/A	OK	OK
70	<i>Additionality - additional to 27-31</i> Does the PDD indicate at which of the following levels that additionality is demonstrated? (a) For the JI PoA (b) For each type of JPA	N/A	OK	OK
71	<i>Crediting period - additional to 34</i> Is the starting date of the JI PoA after the beginning of 2006 (instead of 2000)?	N/A	OK	OK
72	<i>Monitoring plan - additional to 35-39</i> Is the monitoring plan established for each technology and/or measure under each type of JPA included in the JI PoA?	N/A	OK	OK
73	Does the PDD include a table listing at least	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
73	<p>one real JPA for each type of JPA?</p> <p>For each real JPA listed, does the PDD provide the information of:</p> <ul style="list-style-type: none"> (a) Name and brief summary of the JPA? (b) The type of JPA? (c) A geographical reference or other means of identification? (d) The name and contact details of the entity/individual responsible for the operation of the JPA? (e) The host Party(ies)? (f) The starting date of the JPA? (g) The length of the crediting period of the JPA? (h) Confirmation that the JPA meets all the eligibility requirements for its type, including a description of how these requirements are met? (i) Confirmation that the JPA has not been determined as a single JI project or determined under a different JI PoA? 	N/A	OK	OK



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Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Determination team conclusion
<u>Corrective Action Request (CAR) 01:</u> Please use in the PDD font size provided «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01.	-	PDD was corrected in line with «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01. See PDD v.02.	PDD version 02 was checked and recognized as satisfactory. Issue is closed.
<u>Corrective Action Request (CAR) 02:</u> Table A.3 in the PDD must be submitted in a format that provided in the version 04 of the "Guidelines for users of the JI PDD form".	-	Table A.3 was corrected. See PDD v.02.	Issue is closed due to the amendments made in the PDD.
<u>Corrective Action Request (CAR) 03:</u> "Company "MT-Invest" Ltd. Is not Project Participant. Please exclude information about it from Annex 1.	-	Information on "Company "MT-Invest" Ltd. excluded from Annex 1.	The issue is closed due to the corrections made.
<u>Corrective Action Request (CAR) 04:</u> Clarification how anthropogenic GHG emission reductions are to be achieved is not provided. Please correct.	-	Relevant information provided in section A.4.3 of PDD version 02.	Based on the modifications made, CAR04 is closed.
<u>Corrective Action Request (CAR) 05:</u> No Letters of Approval of the project issued by the parties involved.	Item 19	Pending	Pending
<u>Corrective Action Request (CAR) 06:</u> Please provide date of baseline setting according required format DD/MM/YYYY.	Item 22	Corrected.	CAR06 is closed



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<p><u>Corrective Action Request (CAR) 07:</u> In the PDD does not specify how the registration of this project as JI project will help overcome identified barriers.</p>	<p>Item 29 (c)</p>	<p>Description how the registration of this project as JI project will help overcome identified barriers provided in section B.1 of PDD v.02.</p>	<p>The response to CAR07 was found satisfactory. CAR07 is closed.</p>
<p><u>Corrective Action Request (CAR) 08:</u> Determined monitoring plan includes calculations of GHG emissions associated with utilizations of organic waste in project scenario. But these emissions are absence in table 4 of PDD. Please correct or explain.</p>	<p>Item 32 (a)</p>	<p>Table 4 was corrected. See PDD version 02.</p>	<p>CAR08 is closed based on the amendments made in the PDD.</p>
<p><u>Corrective Action Request (CAR) 09:</u> In calculations was used constant NCV 8.2 Gcal/th_s m³. But analysis of documentation showed that NCV of natural gas is variable value. Please correct or clarify.</p>	<p>Item 36 (a)</p>	<p>According to statistic data Net calorific value is variable and variables in period 8100-8300 ccal/m³ (8.1-8.3 Gcal/th_s m³). To simplify the calculations and taking into account the statistics of the enterprise in the calculations used $NCV_{NG,y} = 8.2 \text{ Gcal/th}_s \text{ m}^3$, which objectively reflects the average calorific value of natural gas consumed by the Obolon brewery.</p>	<p>CAR09 is closed based on the provided information.</p>
<p><u>Corrective Action Request (CAR) 10:</u> Not all needed sources and references were provided. Please correct.</p>	<p>Item 36 (b)</p>	<p>Sources of data and parameters and relevant references were provided in section D of PDD version 02.</p>	<p>PDD version 02 was checked and recognized as satisfactory. Issue is closed.</p>
<p><u>Corrective Action Request (CAR) 11:</u> Please specify who is responsible for proniding actual value of CO2 emission factor for the projects of reducing electricity consumption by Ukraine consumers.</p>	<p>Item 36 (b) (ii)</p>	<p>“Company “MT-Invest” Ltd. is responsible for providing actual value of CO2 emission factor for the projects of reducing electricity consumption by Ukraine consumers. Relevant information was added to PDD version 02.</p>	<p>The issue is closed due to the corrections made.</p>



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<p><u>Corrective Action Request (CAR) 12:</u> Please indicate in PDD that the data monitored and required for the project determination will be kept for two years after the last transfer of ERUs the project.</p>	<p>Item 36 (b) (iii)</p>	<p>Relevant information was added to PDD version 02.</p>	<p>The issue is closed based on the corrections made in the PDD.</p>
<p><u>Corrective Action Request (CAR) 13:</u> Brewery Obolon produces soft drinks and mineral water besides the production of beer. But under the proposed monitoring plan all calculations are performed only to brewed beer. Please clarify or correct.</p>	<p>Item 36 (b) (iii)</p>	<p>Consumption of energy Obolon brewery is in the following areas:</p> <ul style="list-style-type: none"> • Production of beer; • Production of soft drinks; • Bottling of mineral water; • Other production consumption. <p>Other production consumption in turn divided into:</p> <ul style="list-style-type: none"> • space heating; • gasifier carbon plant; • factory hot water; • drying work clothes; • Work dryers sparging. <p>All pages of consumption of energy resources that belong to other production consumption directly or indirectly related to beer production, but due to the peculiarities of the balance sheet brewery it was made a separate paragraph.</p>	<p>Due to the corrections made and necessary information provided, the issue is closed.</p>



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	<p>The analysis revealed the structure of energy consumption Obolon brewery (form number 11-MPT in 2010) for distribution to consumers is:</p> <table border="1"> <thead> <tr> <th>Type the consumer</th> <th>Share in the total thermal energy consumed, %</th> <th>Share in total electricity consumed, %</th> </tr> </thead> <tbody> <tr> <td>Production of beer</td> <td>69.5</td> <td>82.5</td> </tr> <tr> <td>Production of soft drinks</td> <td>0.5</td> <td>3.5</td> </tr> <tr> <td>Bottling of mineral water</td> <td>0.1</td> <td>2.5</td> </tr> <tr> <td>Other production consumption</td> <td>29.9</td> <td>11.5</td> </tr> </tbody> </table> <p>As seen from the presented above is a major beer production consumption and other production consumption are the main areas of energy brewery consumption (more than 99% of heat consumption and 94% of electricity consumption). Taking into account that other production consumption directly or indirectly related to beer production, with the aim of simplifying the calculations were made relative to the value of beer produced.</p> <p>Natural gas used only for heat producing by plant boiler house.</p> <p>Relevant information added to section D of PDD version 02.</p>	Type the consumer	Share in the total thermal energy consumed, %	Share in total electricity consumed, %	Production of beer	69.5	82.5	Production of soft drinks	0.5	3.5	Bottling of mineral water	0.1	2.5	Other production consumption	29.9	11.5	
Type the consumer	Share in the total thermal energy consumed, %	Share in total electricity consumed, %															
Production of beer	69.5	82.5															
Production of soft drinks	0.5	3.5															
Bottling of mineral water	0.1	2.5															
Other production consumption	29.9	11.5															



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<p><u>Corrective Action Request (CAR) 14:</u> Section D.1.5 of the PDD requires from project participants to submit information about collection and archiving data on the environment impact as well as references to relevant norms of the host country. Please provide relevant data.</p>	<p>Item 36 (k)</p>	<p>Relevant information added to section D.1.5 of PDD version 02.</p>	<p>Necessary corrections have been made. The issue is closed.</p>
<p><u>Corrective Action Request (CAR) 15:</u> Analysis of 11-MPT form showed that value of heat supplied by boiler-house OJSC "Generator" presented in this form and value used in calculations are different. Please clarify/correct.</p>	<p>Item 45</p>	<p>Heat supplied by boiler house JSC "Generator" consumed in the following areas:</p> <ul style="list-style-type: none"> • Production needs; • Heating the administrative building of the brewery Obolon. <p>In the form of 11-MPT indicated the total amount of received heat. However, due to the fact that the form of 11-MPT for the base year (2000) has been lost, for calculations was taken data on brewery heat consumption provided in Acts reception and transmission of thermal energy between OJSC "Generator" and PJSC "Obolon" that include only heat consumed on production needs. Thus, the owner and developer of the project reduced the baseline so this assumption can be considered as conservative and one that will not lead to artificially drive up emission reduction units.</p>	<p>The response was found satisfactory. CAR15 is closed.</p>



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<u>Corrective Action Request (CAR) 16:</u> There is no information on transboundary impacts in the PDD.	Item 48 (a)	No transboundary environmental impact is expected from the implementation of this project. Relevant information added to section F.1 of PDD version 02.	The issue is closed based on the corrections made in the PDD.
<u>Corrective Action Request (CAR) 17:</u> The proposed project activity not related to the scope #2. Please correct.	-	Corrected.	The issue is closed based on the corrections made in the PDD.
<u>Clarification Request (CL) 01:</u> Please include in this section refer to the corresponding «Excel» file with the calculations.	-	Relevant references added to PDD version 02.	CL01 is closed based on the amendments made in the PDD.
<u>Clarification Request (CL) 02:</u> Please number the tables with information of the estimates (calculations) of emission reductions.	-	Tables were numbered.	Necessary corrections have been made. The issue is closed.
<u>Clarification Request (CL) 03:</u> Section A.5 PDD must specify the name DFPs (parties involved) that will approve the project.	Item 19	State Environmental Investment Agency of Ukraine is DFP of Ukraine. Sponsor Party wasn't determined on this stage of Project. Relevant information added to PDD.	CL03 is closed based on the amendments made in the PDD
<u>Clarification Request (CL) 04:</u> Please specify that the crediting period of ERUs generating started after the beginning of 2008 and continuing over the life cycle.	Item 34 (d)	Relevant references added to section C.3 of PDD version 02.	PDD version 02 was checked and recognized as satisfactory. Issue is closed.
<u>Clarification Request (CL) 05:</u> Please specify that crediting period extension beyond 2012 requires approval by the Host country.	Item 34 (d)	Relevant references added to section C.3 of PDD version 02.	Issue is closed due to the amendments made in the PDD.



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<p><u>Clarification Request (CL) 06:</u> Please specify how determined efficiency coefficient of boiler-house OJSC "Generator".</p>	<p>Item 36 (b)</p>	<p>Efficiency coefficient of boiler-house OJSC "Generator" determined used Tool to determine the baseline efficiency of thermal or electric energy generation systems, Version 1. Using Tool to determine the baseline efficiency of thermal or electric energy generation systems, Version 1 is a common practice in determining of boilers efficiency for the baseline scenario. Taking into account that the lifetime of gas boilers of OJSC "Generator" boiler house is more than 20 years the efficiency of boilers was taken 0.87 in Table 1 of the Tool.</p> <p>Relevant information added to PDD.</p>	<p>Due to the corrections made and necessary information provided, the issue is closed.</p>
<p><u>Clarification Request (CL) 07:</u> In PDD indicated only the coordinates of Kyiv. Please specify geographic coordinates of Obolon.</p>	<p>-</p>	<p>Corrected. See section A.4.1.4 of PDD.</p>	<p>Issue is closed.</p>