



VERIFICATION REPORT CEP CARBON EMISSIONS PARTNERS S.A.

VERIFICATION OF THE MODERNIZATION OF THE HEAT SUPPLY SYSTEM OF TERNOPIL CITY

FIRST PERIODIC

REPORT No. UKRAINE-VER/0903/2012

REVISION No. 02

FOR THE PERIOD OF 01/01/2008 – 31/12/2011

BUREAU VERITAS CERTIFICATION



VERIFICATION REPORT

Date of first issue: 21/12/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: CEP CARBON EMISSIONS PARTNERS S.A.	Client ref.: Fabian Knodel

Summary:

Bureau Veritas Certification has made the 1st periodic verification for the period of 01/01/2008-31/12/2011 of the "Modernization of the heat supply system of Ternopil city " project of CEP CARBON EMISSIONS PARTNERS S.A. located in the territory of Ternopil city, Ukraine, and applying JI specific approach, 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 (but for the crediting period) 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 verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the monitoring report against 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 verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of Clarification, Corrective Actions Requests, Forward Actions Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the emission reductions issued totalize 653 006 tonnes of CO₂ equivalent for the monitoring period from 01/01/2008 to 31/12/2011.

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring, and its associated documents.

Report No.: UKRAINE-ver/0903/2012	Subject Group: JI
Project title: "Modernization of the heat supply system of Ternopil city "	
Work carried out by: Oleg Skoblyk – Team Leader, Climate Change Lead Verifier Viacheslav Yeriomin – Team Member, Technical Expert	
Work reviewed by: Ivan Sokolov - Internal Technical Reviewer Vasyl Kobzar – Technical Expert	
Work approved by: Ivan Sokolov – Climate Change Operational Manager	
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Table of Contents		Page
1	INTRODUCTION	4
1.1	Objective	4
1.2	Scope	4
1.3	Verification Team	4
2	METHODOLOGY.....	5
2.1	Review of Documents	5
2.2	Follow-up Interviews	6
2.3	Resolution of Clarification, Corrective and Forward Action Requests	6
3	VERIFICATION CONCLUSIONS.....	7
3.1	Remaining issues and FARs from previous verifications	7
3.2	Project approval by Parties involved (90-91)	7
3.3	Project implementation (92-93)	8
3.4	Compliance of the monitoring plan with the monitoring methodology (94-98)	9
3.5	Revision of monitoring plan (99-100)	10
3.6	Data management (101)	10
3.7	Verification regarding programmes of activities (102-110)	11
4	VERIFICATION OPINION.....	11
5	REFERENCES	14
	APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL	17



1 INTRODUCTION

CEP CARBON EMISSIONS PARTNERS S.A. has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “Modernization of the heat supply system of Ternopil city ” (hereafter called “the project”) implemented in the territory of Ternopil city, Ukraine.

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

The verification covers the period from January 1, 2008 to December 31, 2011.

1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

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

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Verification Team

The verification team consists of the following personnel:

Oleg Skoblyk
Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Viacheslav Yeriomin
Bureau Veritas Certification Team Member, Technical Expert



This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification Internal Technical Reviewer

Vasyl Kobzar
Bureau Veritas Certification Technical Expert.

2 METHODOLOGY

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

In order to ensure transparency, a verification 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 verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by CEP CARBON EMISSIONS PARTNERS S.A. and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Approved CDM methodology, Determination Report of the project issued by Bureau Veritas Certification Holding SAS, No. UKRAINE-det/0787/2012 revision 02 dated 05/11/2012, Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report for the period of 01/01/2008 – 31/12/2011, version 01 dated 20/12/2012 and version 02 dated 24/12/2012, and project as described in the determined PDD.



2.2 Follow-up Interviews

On 25/12/2012 Bureau Veritas Certification performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of RUC “Ternopilmiskteplok omunenergo” and CEP CARBON EMISSIONS PARTNERS S.A. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
RUC “Ternopilmiskteplok omunenergo”	<ul style="list-style-type: none"> ➤ Organizational structure ➤ Responsibilities and authorities ➤ Roles and responsibilities relating to data collection and processing ➤ Equipment installation ➤ Data logging archiving and reporting ➤ Metering equipment control ➤ Metering record keeping system, database ➤ IT management ➤ Personnel training ➤ Quality control procedures and technology ➤ Internal audit and inspections
Consultant: CEP CARBON EMISSIONS PARTNERS S.A.	<ul style="list-style-type: none"> ➤ Baseline methodology ➤ Monitoring plan ➤ Monitoring report ➤ Deviations from the PDD

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification 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 GHG emission reduction calculation.

If the Verification Team, in assessing the monitoring report and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;



(b) Clarification request (CL), requesting the project participants to provide additional information for the Verification Team to assess compliance with the monitoring plan;

(c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.

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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 7 Corrective Action Requests and 1 Clarification Requests.

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

3.1 Remaining issues and FARs from previous verifications

CAR 13 (lack of written approval from the Host Party) raised during determination process is closed upon Letter of Approval has been provided to Bureau Veritas Certification Holding SAS.

3.2 Project approval by Parties involved (90-91)

The project obtained approval by the Host party (Ukraine) - Letter of Approval No. 3871/23/7 issued by the State Environmental Investment Agency of Ukraine dated 19/12/2012, and written project approval by the party – buyer of the emission reduction units (Switzerland) - Letter of Approval No. J294-0485 issued by the Federal Office for the Environment of Switzerland (FOEN) dated 23/11/2012.

The abovementioned written approvals are unconditional.



The identified areas of concern as to the project approval by the parties involved, project participants' responses and BVC's conclusions are described in Appendix A to this report (refer to CAR 01).

3.3 Project implementation (92-93)

The purpose of the project is reduction of fossil fuel consumption by modernization of a centralized heat supply system of Ternopil city. The project, initiated by HNUE «Ternopilmiskteplokomunenergo», will lead to the reduction of greenhouse gas (GHG) emissions to the atmosphere and contribute to the improvement of ecological situation in the region. The purpose of the project is to promote sustainable development of the region by introducing energy saving technologies.

The project scenario provides for the modernization of the boiler equipment and heat supply networks that will increase efficiency and reduce heat losses in heating systems, improving the quality of service of heat and hot water supply.

The project involves the reduction of greenhouse gases (GHG) due to:

- Replacement of old boilers with new higher energy efficient ones;
- Modernization of boiler equipment;
- Modernization of heating systems, installation of pre-insulated pipes.

Implementation of project activities began in late 2004, as provided in the determined PDD version 02. However, emissions during 2004 conservatively excluded from the calculation. Therefore, the start date of the crediting period was taken 01/01/2005.

In this monitoring report presented reductions that achieved under the project during the period 01/01/2008 - 31/12/2011.

The status of the project implementation in the period from 01/01/2008 to 31/12/2011 is provided in Table 2 below.

Table 2 Status of project implementation in the period from 01/01/2008 to 31/12/2011

Name of the phase	Year of implementation			
	2008	2009	2010	2011
Replacement of boiler-aggregates, units	13	12	-	4
Installation of heat exchangers, units	-	2	-	2
Heating networks replacement, m	6,2	440	1495	480

The implementation of the project is in accordance with the project plan included in the PDD version 02.



The starting date of the crediting period has not changed and remains the date when the first emission reductions are expected to be generated, namely: January 1, 2005.

The monitoring system is in place.

Monitoring equipment, such as natural gas meters, weighing machine and other measurement equipment meet industry standards of Ukraine. All monitoring equipment is included in the detailed verification (calibration) plan and tested at intervals prescribed by the manufacturers of such equipment.

According to the Ukrainian legislation, projects of new construction, reconstruction and technical reequipment of industrial and public facilities must include Environmental Impact Assessment (EIA), the basic requirements of which are listed in the State building norms of Ukraine A.2.2-1-2003. "Structure and Content of Environmental Impact Assessment (EIA) for the design and construction of enterprises, buildings and structures".

RUC "Ternopilmiskteplokomunenergo" has the necessary Environmental Impact Assessment for its activity in accordance with Ukrainian law. In general the project "Modernization of the heat supply system of Ternopil city" has a positive impact on the environment.

The project implementation has a positive impact on the air and water environment.

The identified areas of concern as to the project implementation, project participants' responses and BVC's conclusions are described in Appendix A to this report (refer to CAR 02, CAR 03).

3.4 Compliance of the monitoring plan with the monitoring methodology (94-98)

The monitoring occurred in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

For calculating the emission reductions key factors, such as technical requirements to the heat supply in Ukraine, Ukrainian environmental legislation and other national legislation as well as key factors, such as possibility to finance the modernization of the district heating system, heat tariffs, availability of local technologies and methods of the project, skills and experience in implementing similar measures were taken into account, as appropriate.



Data sources used for calculating emission reductions, such as documents and archival data of the enterprise, standards and statistical forms, the results of periodic inspections of meters are clearly identified, reliable and transparent.

Emission factors, including $EF_{C,NG}^y$ - carbon emission factor in the course of natural gas combustion, are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.

The monitoring periods per component of the project are clearly specified in the monitoring report and do not overlap with those for which verifications were already deemed final in the past.

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology, project participants' responses and BVC's conclusions are described in Appendix A to this report (refer to CAR 04, CAR 05, CAR 06, CAR 07, CL 01).

3.5 Revision of monitoring plan (99-100)

Not applicable.

3.6 Data management (101)

The data and their sources, provided in the monitoring report, are clearly identified, reliable and transparent.

The implementation of data collection procedures is in accordance with the monitoring plan provided in the PDD, including the quality control and quality assurance procedures.

The function of the monitoring equipment, including its calibration status, is in order.

According to the current Law "On metrology and metrological activity", all metering equipment in Ukraine shall meet the specified requirements of relevant standards and is subject to periodic verification. Intercalibration periods are stated in Section B.1. of the MR.

The project complies with the legislative requirements relating to inspections and calibration.

The evidence and records used for the monitoring are maintained in a traceable manner.

Data collection and management system is in accordance with the monitoring plan provided in the PDD.



The most objective and cumulative indicator that provides a clear picture of whether emission reduction took place is the fact of GHG emission reductions achieved by replacement of fossil fuel with natural gas. It can be defined as the difference between the baseline emissions and the GHG emissions after the project implementation.

The monitoring plan includes measures (measurements, maintenance, registration and calibration), which should be implemented to satisfy the requirements of the chosen methodology of monitoring and guarantee the possibility of verification of calculation on GHG emission reductions.

For processing of data on the amount of consumed energy at the facilities of the enterprise meters of natural gas are established. Data on consumption of natural gas are processed by DHI daily from 8.00 am. to 12.00-15.00 pm. based on operative information of operators, masters, senior masters of boiler houses as of 23.00 hours of the previous day, which is provided to dispatchers of emergency dispatch service (EDS) or directly to engineers DHI.

On the consumption of energy resources on targets in displays of sealed metering (including indicators, differences of performance and organic volume) documented bilateral Reports of JSC "Ternopilmiskhaz" on which the relevant Acts and bills is issued.

DHI prepares statistical reports regarding consumption of energy resources and heat production under specified forms, namely 11-MTP.

All necessary data concerning GHG emission reduction monitoring is archived in paper and/or electronic form and kept till the end of the crediting period and for two years after the latest transaction with emission reduction units.

The Monitoring Report version 02 provides sufficient information on duties assigned, responsibility and authorities concerning implementation and undertaking of monitoring procedures, including data management. The verification team confirms the efficiency of the existing management and operational systems and considers them appropriate for reliable project monitoring.

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 1st periodic verification of the "Modernization of the heat supply system of Ternopil city" Project for the period from January 1, 2008 to December 31, 2011, which applies JI



specific approach. The verification 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 verification consisted of the following three phases: i) desk review of the monitoring report against 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 verification report and opinion.

RUC “Ternopilmiskteplokomunenergo” management is responsible for the preparation of data which serve as the basis for estimation of GHG emission reductions. CEP CARBON EMISSIONS PARTNERS S.A. provides RUC “Ternopilmiskteplokomunenergo” with consultative support in the issues relating to organization of data collection and is responsible for developing the monitoring report based on the Project Monitoring Plan included in the final PDD version 02.

Bureau Veritas Certification verified the Project Monitoring Report version 02 for the reporting period of 01/01/2008 - 31/12/2011 as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Emission reductions achieved by the project for the period from 01/01/2008 to 31/12/2011 do not differ from the amount predicted for the same period in the determined PDD. This is explained by the fact that at the time of the PDD development all data were available for accurate calculation of GHG emission reductions of the project.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project’s GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2008 to 31/12/2011

In the period from 01/01/2008 to 31/12/2008

Baseline emissions	: 301 682	tonnes of CO2 equivalent.
Project emissions	: 151 999	tonnes of CO2 equivalent.
Emission Reductions	: 149 683	tonnes of CO2 equivalent.



In the period from 01/01/2009 to 31/12/2009

Baseline emissions	: 316 083	tonnes of CO2 equivalent.
Project emissions	: 153 465	tonnes of CO2 equivalent.
Emission Reductions	: 162 618	tonnes of CO2 equivalent.

In the period from 01/01/2010 to 31/12/2010

Baseline emissions	: 334 485	tonnes of CO2 equivalent.
Project emissions	: 164 968	tonnes of CO2 equivalent.
Emission Reductions	: 169 517	tonnes of CO2 equivalent.

In the period from 01/01/2011 to 31/12/2011

Baseline emissions	: 323 428	tonnes of CO2 equivalent.
Project emissions	: 152 240	tonnes of CO2 equivalent.
Emission Reductions	: 171 188	tonnes of CO2 equivalent.

Total in the period from 01/01/2008 to 31/12/2011

Baseline emissions	: 1 275 678	tonnes of CO2 equivalent.
Project emissions	: 622 672	tonnes of CO2 equivalent.
Emission Reductions	: 653 006	tonnes of CO2 equivalent.



5 REFERENCES

Category 1 Documents:

Documents provided by the project participants that relate directly to the GHG components of the project.

/1/	Monitoring Report of the JI project “Modernization of the heat supply system of Ternopil city ” for the period of 01/01/2008-31/12/2011, version 01, as of 20/12/2012
/2/	Monitoring Report of the JI project “Modernization of the heat supply system of Ternopil city ” for the period of 01/01/2008-31/12/2011, version 02, as of 24/12/2012
/3/	Annex 1 “Calculation of GHG emission reductions” (Excel spreadsheet)
/4/	Annex 2 “Registry of modernization of the heat supply system” (Excel spreadsheet)
/5/	Annex 3 “Types of metering equipment” (Excel spreadsheet)
/6/	The PDD of the JI project “Modernization of the heat supply system of Ternopil city ”, version 02, as of 25/10/2012
/7/	Determination Report of the JI project “Modernization of the heat supply system of Ternopil city”, issued by Bureau Veritas Certification Holding SAS, No. UKRAINE-det/0787/2012 dated 05/11/2012
/8/	Letter of Approval of the JI project “Modernization of the heat supply system of Ternopil city ” No. 3871/23/7 issued by the State Environmental Investment Agency of Ukraine as of 19/12/2012
/9/	Letter of Approval of the JI project “Modernization of the heat supply system of Ternopil city ” under article 6 of the Kyoto Protocol No. J294-0485 issued by the Federal Office for the Environment (FOEN) of Switzerland dated 23/11/2012

Category 2 Documents:

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

/1/	Information on the actual performance of the of cogeneration plants of HNUE “Ternopilmiskteplokomunenergo”
/2/	«Report on fuel, heat and electricity consumption» form N 11-MTP (January – December 2008)
/3/	«Report on fuel, heat and electricity consumption» form N 11-MTP (January – December 2009)
/4/	«Report on fuel, heat and electricity consumption» form N 11-MTP (January – December 2010)
/5/	«Report on fuel, heat and electricity consumption» form N 11-MTP (January – December 2011)



VERIFICATION REPORT

/6/	Act of acceptance of constructed external networks of heat supply of housing stock at Lukyanovich st., 1,2,3 dated March 2009
/7/	Act of commissioning of the heating network from 9Transportna str. to 4Svit str. dated 02/12/2009
/8/	Act of commissioning of TK-5 – TK -8 at L. Ukrainki str. after conducting repair works dated 02/12/2009
/9/	Act of commissioning of the heating network TK - 86 to house # 13 at the 1 Dovgenka str after conducting repair works dated 27/07/2009
/10/	Act of commissioning of the heating network at the Doroshenko str, from house # 11 to house # 13 after conducting repair works dated 27/07/2009
/11/	Act of commissioning of the heating network at the 5 Grushevskogo str. from TK38 to TK 39 after conducting repair works dated 27/07/2009
/12/	Act of commissioning of the heating network at the 5 Doroshenko str. from TK – 136 to TK - 138 dated 27/07/2009
/13/	Act of commissioning of the heating network at the 6 Grushevskogo str. dated 02/12/2009
/14/	Act of commissioning of the heating network at the 32 Zhivovo str. dated 02/12/2009
/15/	Act of commissioning of the heating network at the at 24 Ruska str. to 6-1 Ostrovskogo str. after conducting repair works dated 02/12/2009
/16/	Act of commissioning of the heating network at the 15 Karpenka str. dated 02/12/2009
/17/	Act of commissioning of the heating network at the 11a Troleibusna str. after conducting repair works dated 02/12/2009
/18/	Act of commissioning of the heating network at the 9 Gromnitskogo str. after conducting repair works dated 02/12/2009
/19/	Act of commissioning of automated system for commercial metering of electricity dated 01/01/2009
/20/	Act of acceptance of boiler power unit and external networks of heat supply of housing stock VA "TO Texterno" dated 12/08/2008
/21/	List of communal enterprise of boilers of heating networks " Ternopilmiskteplokomunenergo" of Ternopil City Council dated 08/05/2012 # 488/9-u
/22/	Passport # TU 28.3-31777042-001-2004 on collapsible plate heat exchanger "DAN" FP-40 # 888.06
/23/	Passport # TU 28.3-31777042-001-2004 on collapsible plate heat exchanger "DAN" FP-31 666.07
/24/	Passport # 34427263.00.00 on collapsible plate heat exchanger TOPR 40B-3151-101,6-K-F # 431107
/25/	Passport # 34427263.00.00 on collapsible plate heat exchanger



	TOPR 40B-3151-101,6-K-F # 421107
/26/	Passport # 34427263.00.00 on collapsible plate heat exchanger TOPR 40B-3151-101,6-K-F # 441107
/27/	Passport # 34427263.00.00 on collapsible plate heat exchanger TOPR 40B-3151-101,6-K-F # 451107
/28/	Passports on fixed water boilers
/29/	Passports on household gas heating devices Kolvi Termona CT
/30/	Passports on household gas heating apparatus EUROTHERM

Persons interviewed:

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

	Name	Organization	Position
/1/	Chumak A. K.	HNUE «Ternopilmiskteplo komunenergo»	Director
/2/	Konopljanik S. O.	HNUE «Ternopilmiskteplo komunenergo»	Chief engineer
/3/	Biskylska N. V.	HNUE «Ternopilmiskteplo komunenergo»	Chief accountant
/4/	Shtopko V. A.	HNUE «Ternopilmiskteplo komunenergo»	Deputy Director
/5/	Onisnki V. R.	HNUE «Ternopilmiskteplo komunenergo»	Deputy Director on Economy, Chief FER
/6/	Iliina T.O.	“CEP” LLC	Consultant of CEP CARBON EMISSIONS PARTNERS S.A.



VERIFICATION REPORT

APPENDIX A: PROJECT VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

VERIFICATION PROTOCOL

Table 1. Check list for verification, according to the JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The project has been approved by both the Host party (Ukraine) and the other Party involved (Switzerland). The Letters of Approval were issued by NFPs of the Parties involved. Two Letters of Approval were available at the beginning of the first verification of the project. CAR 01. Please, state the information relating to the determination of the project in Section A.2. of the MR.	CAR 01	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the	CAR 02. The version of methodology AM0044 is incorrect in Section A.5.1. of the MR. CAR 03. The reference to the methodology AM0044 doesn't work.	CAR 02 CAR 03	OK OK



VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	UNFCCC JI website?			
93	What is the status of operation of the project during the monitoring period?	The implementation of the project activities is in accordance with the project plan included in the determined PDD version 02.	OK	OK
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	There aren't any changes in or deviations from the registered PDD.	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) of the DVM, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	<p>For calculating the emission reductions key factors, such as technical requirements to the heat supply in Ukraine, Ukrainian environmental legislation and other national legislation as well as key factors, such as possibility to finance the modernization of the district heating system, heat tariffs, availability of local technologies and methods of the project, skills and experience in implementing similar measures were taken into account, as appropriate.</p> <p>CAR 04. Measurement unit of parameter $OXID_{b,NG}^j$ is incorrect in Table 3. of the MR.</p> <p>CAR 05. There are measurement units not for all parameters is stated in Table 3 of MR.</p> <p>CAR 06. The value of parameter $EF_{b,C,NG}^j$ is incorrect in Table 3 of MR.</p>	<p>CAR 04</p> <p>CAR 05</p> <p>CAR 06</p>	<p>OK</p> <p>OK</p> <p>OK</p>
95 (b)	Are data sources used for calculating	Data sources used for calculating emission	CAR 07	OK



VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions or enhancements of net removals clearly identified, reliable and transparent?	reductions are clearly identified, reliable and transparent. CAR 07. It's stated that CEP Carbon Emissions Partners S.A. is (stated in Annex 1), but there is another information in Annex 1. CL 01. Please, provide a reference to State building norms of Ukraine A.2.2-1-2003. "Structure and Content of Impact Assessment (EIA) for the design and construction of enterprises, buildings and structures".	CL 01	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Emission factors, including $EF_{C,FF}^y$ - carbon emission factor for FF-type fossil fuel combustion, are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	Calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.	OK	OK
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the	Not applicable	Not applicable	Not applicable



VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?			
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	Not applicable	Not applicable	Not applicable
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	Not applicable	Not applicable	Not applicable
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	Not applicable	Not applicable	Not applicable
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	Not applicable.	Not applicable	Not applicable
99 (b)	Does the proposed revision improve the	Not applicable	Not	Not



VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?		applicable	applicable
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The implementation of data collection procedures, including the quality control and quality assurance procedures, is in accordance with the monitoring plan.	OK	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The order (procedure) of calibration of metering devices (including electricity and natural gas meters) is defined by the law of Ukraine of 11/02/1998 No.113/98-VR «On metrology and metrological activity» (hereinafter - the Law). In particular, article No.28 of the Law states that metering devices in operation are subject to periodic calibration. The procedure for establishing verification frequency is determined by a legal act of the authorized central executive body for metrology (hereinafter - ACEB). Enterprises, organizations and individuals are obliged to duly provide metering devices for calibration (taking into account the verification frequency).	OK	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	Each quarter, representatives of CEP CARBON EMISSIONS PARTNERS S.A., project developers, conduct internal audits of the project monitoring	OK	OK



VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		system at RUC "Ternopilmiskteplokomunenergo". Internal audit includes measures on verification of monitoring parameter accounting, metering equipment calibration and cross checks.		
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system for the project is in accordance with the monitoring plan. The verification team confirms the effectiveness of the existing management and operating systems and considers them suitable for reliable monitoring of the project.	OK	OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	Not applicable	Not applicable	Not applicable
103	Is the verification based on the monitoring reports of all JPAs to be verified?	Not applicable	Not applicable	Not applicable
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	Not applicable	Not applicable	Not applicable
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable	Not applicable	Not applicable
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable	Not applicable	Not applicable
Applicable to sample-based approach only				



VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
106	<p>Does the sampling plan prepared by the AIE:</p> <p>(a) Describe its sample selection, taking into account that:</p> <p>(i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as:</p> <ul style="list-style-type: none"> - The types of JPAs; - The complexity of the applicable technologies and/or measures used; - The geographical location of each JPA; - The amounts of expected emission reductions of the JPAs being verified; - The number of JPAs for which emission reductions are being verified; - The length of monitoring periods of the JPAs being verified; and - The samples selected for prior verifications, if any? 	Not applicable	Not applicable	Not applicable



VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	Not applicable	Not applicable	Not applicable
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	Not applicable	Not applicable	Not applicable
109	Is the sampling plan available for submission to the secretariat for the JISC's ex ante assessment? (Optional)	Not applicable	Not applicable	Not applicable
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	Not applicable	Not applicable	Not applicable



VERIFICATION REPORT

Table 2. Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by verification team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR 01. Please, state the information relating to the determination of the project in Section A.2. of the MR.	90	Joint Implementation Project “Modernization of the heat supply system of Ternopil city” was determined by the Bureau Veritas Certification, determination report No. UKRAINE-DET/0787/2012 from 05/11/2012.	The issue is closed as necessary information was provided.
CAR 02. The version of methodology AM0044 is incorrect in Section A.5.1. of the MR.	92	The specific approach used by the project has two important advantages (at least, in the Ukrainian conditions) compared to	The issue is closed as necessary corrections were made.



VERIFICATION REPORT

		AM0044 Methodology (Version 01)	
CAR 03. The reference to the methodology AM0044 doesn't work.	92	The reference is checked. Necessary corrections were made.	The issue is closed as necessary corrections were made.
CAR 04. Measurement unit of parameter $OXID_{b,NG}^j$ is incorrect in Table 3. of the MR.	95(a)	Measurement unit of parameter $OXID_{b,NG}^j$ is relative units	The issue is closed as necessary corrections were made.
CAR 05. There are measurement units not for all parameters is stated in Table 3 of MR.	95(a)	There are measurement units for all parameters is stated in Table 3 of MR. See MR version 02.	The issue is closed as necessary data was provided.
CAR 06. The value of parameter $EF_{b,C,NG}^j$ is incorrect in Table 3 of MR.	95(a)	The value of parameter $EF_{b,C,NG}^j$ is 15,18 t C/ TJ.	The issue is closed as necessary corrections were made.
CAR 07. It's stated that CEP Carbon Emissions Partners S.A. is (stated in Annex 1), but there is another information in Annex 1.	95(b)	Incorrect information was deleted. See MR version 02.	The issue is closed as incorrect information was deleted.
CL 01. Please, provide a reference to State building norms of Ukraine A.2.2-1-2003. "Structure and Content of Impact Assessment (EIA) for the design and construction of enterprises, buildings and structures".	95 (b)	Relevant reference was provided.	The issue is closed as necessary information was provided.