TÜV Rheinland (China) Ltd. (TÜV Rheinland)

VERIFICATION REPORT

Verification of the
Joint Implementation Project
Introduction of energy efficiency measures at
OJSC “Enakievo Metallurgical Works”

ITL Project ID: UA1000224

Third periodic verification:
01/04/2011 – 31/10/2012

Report No. 01 998 9105072664 – VR3
Revision No. 02

Customer: ING Bank N.V.

VERIFICATION REPORT

Date of first issue: 28/11/2012	Project No: 01 998 9105072664 ITL Project ID: UA1000224
Executor: TÜV Rheinland (China) Ltd. (TÜV Rheinland)	Organizational unit: TÜV Rheinland Ukraine Ltd. Technical Competence Center
Customer: ING Bank N.V.	Client ref.: . Mr. Peter van Eijndhoven

Summary:

TÜV Rheinland (China) Ltd. (TÜV Rheinland) has performed the third periodic verification of emission reductions generated by the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" (ITL Project ID UA1000224) for the period from 01/04/2011 till 31/10/2012.

The purpose of verification is to assess the reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks generated by a JI project and reported by the project participants through the monitoring report in accordance with paragraph 37 of the JI guidelines.

In our opinion, the emission reductions reported through the monitoring report, version 2.0 dated 03/12/2012 are fairly stated and are accurate and free of material errors, omissions, or misstatements.

During the monitoring period the project has been implemented in accordance with the project design document version 2.21 dated 14/07/2010.

The emission reductions were calculated correctly on the basis of the approved monitoring plan contained in the project design document version 2.21 dated 14/07/2010 and previous monitoring reports.

TÜV Rheinland (China) Ltd. (TÜV Rheinland) is able to verify that the emission reductions generated by the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" during the period from 01/04/2011 till 31/10/2012 amount to 673 040 tonnes of CO_2 equivalent.

Report No.: 01 998 9105072664 – VR3	Subject Group: JI	
Project title: Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works"		
Work carried out by: Dr. Valery Yakubovsky - Team Leader, Technical Competence Center Director Ms. Iryna Nikolaieva - Auditor Mr. Iurii Petruk - Trainee Mr. Vyacheslav Gonchar - Technical Expert		
Work verified by: Dr. Lixin Li – Technical Reviewer		
Verification Report approved by: Dr. Manfred Brinkmann – Accredited Independent Entity Operational manager		
Date of this revision: 20/12/2012	Revision No.: 02	Number of pages: 35

TÜV Rheinland (China) Ltd.
(TÜV Rheinland)

Abbreviations

AIE	Accredited Independent Entity
BE	Baseline Emission
CAR	Corrective Action Request
CL	Clarification Request
CO_2	Carbon Dioxide
DFP	Designated Focal Point
ERU	Emission Reduction Unit
FAR	Forward Action Request
GHG	Greenhouse Gas
I	Interview
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
LoA	Letter of Approval
MR	Monitoring report
PD	Power department
PDD	Project Design Document
PE	Project Emissions
SMS and TA	Shop of Measurement Systems and Thermal Automatic
t	tonne
UNFCCC	United Nations Framework Convention on Climate Change

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1. VERIFICATION OPINION

TÜV Rheinland (China) Ltd. (TÜV Rheinland) has performed the third periodic verification of the emission reductions generated by the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" (ITL Project ID UA1000224) for the period from 01/04/2011 till 31/10/2012.

The project participants are responsible for the collection of data in accordance with the monitoring plan and the reporting of emission reductions generated by the project.

It is responsibility of TÜV Rheinland (China) Ltd. (TÜV Rheinland) to express an independent verification opinion - conclusion on the verified amount of emission reductions generated by the project and reported by the project participants through the monitoring report, version 2.0 dated 03/12/2012.

TÜV Rheinland (China) Ltd. (TÜV Rheinland) has assessed the monitoring report on the basis of the monitoring plan contained in the registered project design document version 2.21 dated 14/07/2010 and the monitoring report version 2.0 dated 03/12/2012.

The verification included the assessment of:

- project implementation in accordance with the project design document (PDD);
- compliance with the monitoring plan;
- calculation of emission reductions and expression of a conclusion with a reasonable level of assurance about whether the reported emission reductions data are accurate and free of material errors, omissions, or misstatements;
- quality and management of data and verification that reported emission reductions data is sufficiently supported by evidence.

TÜV Rheinland (China) Ltd. (TÜV Rheinland) verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. TÜV Rheinland (China) Ltd. (TÜV Rheinland) planned and performed the verification by obtaining evidence information and explanations that TÜV Rheinland (China) Ltd. (TÜV Rheinland) considers necessary to give reasonable assurance that reported emission reductions are fairly stated, accurate and free of material errors, omissions, or misstatements.

In TÜV Rheinland's (China) Ltd. (TÜV Rheinland's) opinion the emission reductions generated by the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" (ITL Project ID UA1000224) for the period from 01/04/2011 till 31/10/2012 are fairly stated, accurate and free of material errors, omissions, or misstatements in the monitoring report, version 2.0 dated 03/12/2012.

The GHG emission reductions were calculated correctly on the basis of the registered project design document version 2.21 dated 14/07/2010.

TÜV Rheinland (China) Ltd. (TÜV Rheinland) is able to verify that the emission reductions generated by the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" (ITL Project ID UA1000224) for the period from 01/04/2011 till 31/10/2012 amount 673 040 tonnes of CO_2 equivalent.

2. INTRODUCTION

ING Bank N.V. has commissioned TÜV Rheinland (China) Ltd. (TÜV Rheinland) to carry out the verification of the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" (hereinafter "project") for the period from 01/04/2011 till 31/10/2012. This report contains the findings from the verification and conclusion on the verified amount of emission reductions.

2.1 Objective

The verification is the periodic independent review and ex post verification by an Accreditation Independent Entity (AIE) of the monitored reductions in GHG emissions that have occurred as a result of a Joint Implementation (JI) project activity during a defined verification period.

The purpose of the verification is to assess the reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks generated by a JI project and reported by the project participants through the monitoring report in accordance with paragraph 37 of the JI guidelines.
The objective of this verification was to verify emission reductions generated by the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" for the period from 01/04/2011 till 31/10/2012.

TÜV Rheinland (China) Ltd. (TÜV Rheinland) is an Accredited Independent Entity by the Joint Implementation Supervisory Committee.

2.2 Scope

The scope of this verification is the assessment of:

- project implementation in accordance with the project design document (PDD);
- compliance with the monitoring plan, including the revision of the monitoring plan;
- calculation of emission reductions and expression of a conclusion with a reasonable level of assurance about whether the reported emission reduction data are accurate and free of material errors, omissions, or misstatements;
- quality and management of data and verification that reported emission reduction data is sufficiently supported by evidence.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions, forward action requests may provide input for corrective

actions in order to provide for more accurate future monitoring and reporting.

2.3 JI Project Description

The brief information regarding the project activity is provided in table 1.

Table 1 - JI project brief information

Project Parties involved:	1. Ukraine (host Party) 2. Switzerland 3. The Netherlands
Title of the project:	"Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works"
Type of JI activity:	Large-scale
ITL Project ID:	UA1000224
Baseline and monitoring methodology:	JI specific approach
Project entity participant:	PJSC "Enakievo Metallurgical Works"
Other project participants:	Metinvest International S.A. ING Bank N.V.
Location of the project:	Ukraine, Donetsk region, the town of Yenakiyevo
Crediting period of the project:	01/01/2007-31/12/2021
Period verified in this report:	01/04/2011-31/10/2012
Period verified in previous verification report:	01/01/2008 – 30/06/2010 (initial and first verification) 01/07/2010 – 31/03/2011 (second verification)

Enakievo Metallurgical Works (EMW) was founded in 1895. In 1996 the company was privatized with the creation of OJSC "EMW". EMW is currently specializing in the production of continuous casting billets and rolled square billets, sectional iron and structural shapes of carbon, low-carbon and low alloyed steel grades. The company has a complete metallurgical production cycle: from sinter and hot metal till production of tradable ingot and hot-rolled square billet, roller section and wire rod. OJSC "EMW" consists of the following shops: sinter, blast furnace, basic oxygen furnace, cogging and rolling shop.

Production of hot metal and steel making requires significant energy consumption. The proposed JI project involves a large-scale modernization of Blast Furnace Shop (BF Shop) of the enterprise. The project foresees reconstruction of blast furnaces No.3 and No.5 with the further introduction of the use of pulverized coal in the blast furnaces,

installation of new oxygen unit, installation of a new compressor unit and reconstruction of the power plant that provides compressed air to the blast furnaces and produces steam and electricity (CHPP). The total investments to the reconstruction of OJSC "EMW" will be over US $ 690 million. The project implementation will result in significant reductions of coke and electricity consumption, therefore reducing greenhouse gases emission reductions to the atmosphere.

The project has been registered under national procedure as Track 1 JI project with the PDD version 2.21 dated 14/07/2010. The documentation on the project including the PDD, approval by the host Party, Determination report is available at:
http://ji.unfccc.int/JIITLProject/DB/FX1G65CCXNL6DMJKCKODRF3QL2Z3EF/details

3. METHODOLOGY

The verification process has been carried out using internal procedures of TÜV Rheinland (China) Ltd. (TÜV Rheinland). In order to ensure transparency, a Verification protocol (Annex A to Verification report) was customized for the project, according to the Annex to "Joint Implementation Determination and Verification Manual", version 01. The Verification protocol shows, in a transparent manner, criteria (requirements) and results of verification.

The verification consists of the following three phases:

I) a desk review of the monitoring report including analysis of the compliance of the monitoring plan with the monitoring methodology;

II) follow-up interviews with project stakeholders including on site visit;

III) the resolution of outstanding issues and the issuance of the final verification report and opinion.

The following subsections outline each step in more detail.

3.1 Desk review

Project participants provided TÜV Rheinland (China) Ltd. (TÜV Rheinland) all the necessary documents for document review. The monitoring report version 1.0 dated 07/11/2012 was assessed as part of the verification. In addition, the project's Project Design Document version 2.21 dated 14/07/2010, Determination report version 01 dated 27/07/2010, and Verification report for the period 01/01/2008–30/06/2010 version 05 dated 13/02/2011 and Verification report for the period 01/07/2010–31/03/2011 version 03 dated 03/10/2011 were also reviewed. Supporting documents, such as, journals of accounting of blast furnace shop inputs and reports on consumption of key raw materials for pig iron production by objects etc. were available during on site visit.

The information and formulae provided in the monitoring report was compared with PDD and stated data sources.

To address TÜV Rheinland (China) Ltd. (TÜV Rheinland) corrective action and clarification requests, project participants revised the monitoring report and resubmitted it as version 2.0 dated 03/12/2012.

The verification findings presented in this report relate to the monitoring report version 2.0 dated 03/12/2012 and project as described in the PDD version 2.21 dated 14/07/2010.

The following tables outline the documentation reviewed during the verification. Documents provided by GreenStream Network GmbH that relate directly to the components of the project are indicated in table 2.

Background documents related to the monitoring and/or methodologies employed in the monitoring or other reference documents are provided in table 3.

Table 2 - Category 1 Documents

No.	Title of the document
/1/	PDD "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works", version 2.21 dated 14/07/2010.
/2/	Monitoring report, version 1.0 dated 07/11/2012.
/3/	Monitoring report, version 2.0 dated 03/12/2012.
/4/	Emission reduction calculation spreadsheet.
/5/	"Joint implementation determination and verification manual", version 01, JISC.
/6/	"Guidance on Criteria for Baseline Setting and Monitoring", version 03, JISC.
/7/	Determination report of the JI Project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" version 01 dated 27/07/2010.
/8/	Verification report of the JI Project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" for the period 01/01/2008–30/06/2010 version 05 dated 13/02/2011.
/9/	Verification report of the JI Project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" for the period 01/07/2010–31/03/2011 version 03 dated 03/10/2011.
/10/	Letter of Approval of the JI Project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" by the Host Party – Ukraine - # 166/23/7 dated 26/01/2011.
/11/	Written approval of the JI Project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" by a Party involved – the Netherlands # 2010JI28 dated 08/09/2010.
/12/	Written approval of the JI Project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" by a Party involved – Switzerland # J294-0485 dated 28/06/2011.

Table 3 - Category 2 Documents

No.	Title of the document
/1/	Journal of accounting of blast furnace shop inputs. January 2012.
/2/	Journal of accounting of blast furnace shop inputs. April 2012.
/3/	Journal of accounting of blast furnace shop inputs. June 2012.
/4/	Journal of accounting of blast furnace shop inputs. September 2012.
/5/	Journal of accounting of blast furnace shop inputs. December

No.	Title of the document
	2011.
/6/	Journal of accounting of blast furnace shop inputs. April 2011.
/7/	Journal of accounting of blast furnace shop inputs. July 2011.
/8/	Journal of accounting of blast furnace shop inputs. September 2011.
/9/	Consumption of key raw materials for pig iron production by objects. January 2012.
/10/	Consumption of key raw materials for pig iron production by objects. April 2012.
/11/	Consumption of key raw materials for pig iron production by objects. June 2012.
/12/	Consumption of key raw materials for pig iron production by objects. September 2012.
/13/	Report on steam at CHP. December 2011.
/14/	Report on steam at CHP. September 2011.
/15/	Report on steam at CHP. July 2011.
/16/	Report on steam at CHP. April 2011.
/17/	Steam distribution at CHP shop. September 2012.
/18/	Steam distribution at CHP shop. April 2012.
/19/	Steam distribution at CHP shop. June 2012.
/20/	Steam distribution at CHP shop. January 2012.
/21/	Electricity balance at PJSC "EMW". September 2012.
/22/	Electricity balance at PJSC "EMW". June 2012.
/23/	Electricity balance at PJSC "EMW". April 2011.
/24/	Electricity balance at PJSC "EMW". July 2011.
/25/	Electricity balance at PJSC "EMW". September 2011.
/26/	Electricity balance at PJSC "EMW". December 2011.
/27/	Electricity balance at PJSC "EMW". January 2012.
/28/	Electricity balance at PJSC "EMW". April 2012.
/29/	Production consumption of electricity. June 2012.
/30/	Production consumption of electricity. April 2012.
/31/	Production consumption of electricity. January 2012.
/32/	Production consumption of electricity. September 2012.
/33/	Production consumption of electricity. July 2011.
/34/	Production consumption of electricity. April 2011.
/35/	Production consumption of electricity. January 2011.
/36/	Production consumption of electricity. September 2011.
/37/	Natural gas balance at PJSC "EMW". September 2012.
/38/	Natural gas balance at PJSC "EMW". June 2012.
/39/	Natural gas balance at PJSC "EMW". April 2011.
/40/	Natural gas balance at PJSC "EMW". July 2011.
/41/	Natural gas balance at PJSC "EMW". September 2011.
/42/	Natural gas balance at PJSC "EMW". December 2011.

No.	Title of the document
/43/	Natural gas balance at PJSC "EMW". January 2012.
/44/	Natural gas balance at PJSC "EMW". April 2012.
/45/	Natural gas physical chemical characteristics certificate. April 2012.
/46/	Natural gas physical chemical characteristics certificate. August 2012.
/47/	Act on preparedness of the object for exploitation #004 dated 19/12/2011. Blast furnace #3.
/48/	Certificate to attest passing of the training course on the Process Control System SIMATIC PCS7 ST-PCS7SYS to Mr. Zayichenko Pavlo.
/49/	Certificate to attest passing of the training course on the Process Control System SIMATIC PCS7 ST-PCS7SYS to Mr. Zozulya Alexander.
/50/	Certificate to attest passing of the training course on the Process Control System SIMATIC PCS7 ST-PCS7SYS to Mr. Kucheryavykh Vladislav.
/51/	Certificate to attest passing of the training course on the Process Control System SIMATIC PCS7 ST-PCS7SYS to Mr. Mentel Kyrylo.
/52/	Certificate to attest passing of the training course on the Process Control System SIMATIC PCS7 ST-PCS7SYS to Mr. Kozhevnikov Dmitriy.
/53/	Calculation form #3. Blast furnace shop. June 2012.
/54/	Calculation form #3. Blast furnace shop. July 2011.
/55/	Calculation form #20. Oxygen shop. July 2011.
/56/	Calculation form #21. CHP. July 2011.
/57/	Calculation form #20. Oxygen shop. June 2012.
/58/	Calculation form #21. CHP. June 2012.
/59/	Passport of electricity meter ALFA A1800 serial #01202724. Last calibration dated 14/01/2010.
/60/	Passport of electricity meter ALFA A1800 serial #01202761. Last calibration dated 14/01/2010.
/61/	Passport of electricity meter ALFA A1800 serial #01202731. Last calibration dated 14/01/2010.
/62/	Calibration certificate on electricity meter Delta 8010-01 serial #00544 dated 26/10/2009.
/63/	Calibration certificate on electricity meter Delta 8010-01 serial #00620 dated 11/06/2009
/64/	Calibration certificate on electricity meter Delta 8010-01 serial #00606 dated 11/06/2009
/65/	Calibration certificate on electricity meter Delta 8010-01 serial #00527 dated 06/08/2009.
/66/	Calibration certificate on electricity meter LO3T5-1M1 serial #1000 dated 17/05/2010.
/67/	Calibration certificate on electricity meter SA4U-I672A1 serial #199159 dated 05/03/2012.

No.	Title of the document
/68/	Calibration certificate on electricity meter ST-EA03 serial #000938 dated 03/08/2010.
/69/	Passport of natural gas flow meter Metran-100DD serial #941945 with recorder Disk-250M #4162. Last calibration dated 30/12/2011.
/70/	Passport of natural gas flow meter Metran-100DD serial #463786. Last calibration dated 21/02/2012.
/71/	Passport of natural gas flow meter Metran-100DD serial #171585 with recorder Disk-250M #17212. Last calibration dated 22/03/2012.
/72/	Passport of natural gas flow meter Metran-100DD serial #162518 with recorder Disk-250M #5292. Last calibration dated 27/02/2012.
/73/	Passport of steam flow meter Metran serial #233543 with recorder Disk-250M #65083. Last calibration dated 11/01/2012.
/74/	Passport of steam flow meter MV-3095 serial #8119744 with recorder Disk-250M #91186. Last calibration dated 20/07/2012.
/75/	Passport of steam flow meter Metran serial #171144 with recorder Disk-250M #49851. Last calibration dated 21/11/2011.
/76/	Passport of steam flow meter Metran-150 serial #923163 with recorder RMT #303-0705. Last calibration dated 06/09/2012.
/77/	Passport of steam flow meter Metran-150SD serial #814233 with recorder RMT-59 #303-0593. Last calibration dated 04/04/2012.
/78/	Passport of steam flow meter Metran-100DD serial #325655. Last calibration dated 03/04/2012.
/79/	Passport of steam flow meter Metran-100SD serial #314624 with recorder Disk-250 #48502. Last calibration dated 21/11/2011.
/80/	Passport of steam flow meter DM serial #13988 with recorder KSD-3 #202624. Last calibration dated 31/10/2011.
/81/	Passport of steam flow meter DM serial #16729 with recorder KSD-3 #240592. Last calibration dated 08/12/2011.
/82/	Passport of steam flow meter Metran-100DD serial #443037 with recorder Disk-250M #4175. Last calibration dated 03/07/2012.
/83/	Passport of steam flow meter Metran-100 serial #171735 with recorder Disk-250 #24018. Last calibration dated 21/03/2012.
/84/	Passport of steam flow meter DM serial #92131 with recorder KSD-3 #224435. Last calibration dated 22/03/2012.
/85/	Passport of steam flow meter DM serial #7677 with recorder KSD-3 #224439.
/86/	Passport of steam flow meter DM serial #96434 with recorder KSD-3 #193582.
/87/	Passport of steam flow meter DM serial #14290 with recorder KSD-3 #360983.
/88/	Passport of steam flow meter DM serial #77827 with recorder KSD-3 #224421.
/89/	Passport of steam flow meter Metran-100 serial #418278 with recorder RMT-49D/Z #1960359. Last calibration dated 21/08/2012.

No.	Title of the document
/90/	Schedule for maintenance of control measurement instruments. October 2012.
/91/	Passport of railway scales ErMak BB 200-2-50 #1052. Last calibration dated 24/07/2012.
/92/	Passport of bunker scales WeiTeg HW3-6. Last calibration dated 15/06/2012.
/93/	Passport of bunker scales WeiTeg HW3-3. Last calibration dated 04/05/2012.
/94/	Passport of scales KI7426-03. Last calibration dated 05/07/2012.
/95/	Passport of scales KI7426-07. Last calibration dated 06/07/2012.
/96/	Photo - ACS TP "Oxygen-12".
/97/	Photo - ACS TP "CRU-4 PJSC "EMW".
/98/	Photo - Power meter Delta 8010.
/99/	Photo - Recorder Disc-250M.
/100/	Photo - ACS TP of CHP.
/101/	Photo - Power meter SA3U-5009.
/102/	Photo - Power meter ST-EAO3.
/103/	Photo - The log of power meters of substation 10.
/104/	Photo - ACS TP of Blast furnace # 5.
/105/	Photo - The blast furnace log.
/106/	Photo - Power meter ALFA A.
/107/	Photo - Natural gas flow meter Metran.
/108/	Photo - The scales for coke and limestone.
/109/	Photo - Bunker scales.
/110/	Replacement act of natural gas flow meter Metran-150 #896625 on Metran -150 #896605 dated 27/09/2012.

3.2 Interviews with project stakeholders

TÜV Rheinland (China) Ltd. (TÜV Rheinland) performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Interviewed representatives of METINVEST HOLDING LLC, PJSC "Enakievo Metallurgical Works", ING Bank N.V. and GreenStream Network GmbH are summarized in Table 4. The main topics of the interviews are summarized in Table 5.

Table 4 - Persons interviewed

No.	Name	Organization	Position
/1/	Solovyova Y.V.	PJSC "EMW"	Acting deputy head of PD
/2/	Radomskiy V.Y.	PJSC "EMW"	Acting head of PD
/3/	Zaika V.P.	PJSC "EMW"	Head of Networks and Substations Shop
/4/	Vergun O.P.	PJSC "EMW"	Acting head of electrotechnical

			laboratory
/5/	Nefedova Y.M.	PJSC "EMW"	Engineer of Networks and Substations Shop
/6/	Malyutin V.M.	PJSC "EMW"	Head of Oxygen Shop
/7/	Storozhuk L.V.	PJSC "EMW"	Head of CHP Shop
/8/	Sharandin M.V.	PJSC "EMW"	Head of SMS and TA
/9/	Yasinovskiy O.G.	PJSC "EMW"	Senior master of SMS and TA department
/10/	Bykov D.M.	PJSC "EMW"	Senior master for maintenance of Blast Furnace Shop
/11/	Saprykin M.M.	PJSC "EMW"	Deputy head of Shop for Technology of Blast Furnace Shop
/12/	Afanasyev I.V.	PJSC "EMW"	Engineer for thermal engineering production measurement equipment of the central metrology laboratory of the plant
/13/	Storozhenko S.B.	PJSC "EMW"	Head of the central metrology laboratory of the plant
/14/	Bugayov O.	GreenStream Network GmbH	Consultant
/15/	Groza Y.	GreenStream Network GmbH	Director, Ukraine
/16/	Peter van Eijndhoven	ING Bank N.V.	Director, Natural Resources
/17/	Antipov V.I.	METINVEST HOLDING LLC	Carbon projects manager

Table 5 - Interview topics

No.	Date	Interviewed organization	Interview topics
/1/	21/11/2012	PJSC "EMW" METINVEST HOLDING LLC	➢ Project implementation, ➢ Project management ➢ QA/QC of the project, ➢ Data sources, logbooks ➢ Data processing and reporting ➢ Exploitation reporting ➢ Inspection of the plant and the monitoring facilities ➢ Monitoring equipment ➢ Staff training

No.	Date	Interviewed organization	Interview topics
/2/	21/11/2012	GreenStream Network GmbH ING Bank N.V.	➢ Monitoring report preparation ➢ Data reporting and transferring ➢ Emission reductions calculation

3.3 Resolution of Clarification, Corrective and Forward Action Requests

Where TÜV Rheinland (China) Ltd. (TÜV Rheinland), 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:

- Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;
- Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the monitoring plan;
- 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 of the project resulted in 12 Corrective action requests and 6 Clarification requests. There were no unresolved Forward action requests from the previous verification.

TÜV Rheinland (China) Ltd. (TÜV Rheinland) made an objective assessment as to whether the actions taken by the project participants and presented in the Table 1 (Annex A to Verification report) satisfactorily resolve the raised issues and concluded its findings of the verification.

3.4 Internal Technical Review

The verification report including the verification findings underwent a technical review before requesting the publication according to paragraph 37 of the JI guidelines. The technical review was performed by an internal technical reviewer qualified in accordance with TÜV Rheinland (China) Ltd. (TÜV Rheinland) qualification scheme for JI project determination and verification.

3.5 Verification team

The verification team consists of the following personnel indicated in Table 6 below.

Table 6 - Verification team

Name	Role
Dr. Manfred Brinkmann	AIE Operational manager
Dr. Lixin Li	Technical Reviewer
Dr. Valery Yakubovsky	Team Leader
Ms. Iryna Nikolaieva	Auditor
Mr. Iurii Petruk	Trainee
Mr. Vyacheslav Gonchar	Technical Expert

4. VERIFICATION FINDINGS

This section summarizes the findings from the verification of the emission reductions generated by the JI project "Introduction of energy efficiency measures at OJSC "Enakievo Metallurgical Works" (ITL Project ID UA1000224) for the period from 01/04/2011 till 31/10/2012.

4.1 Project approval by Parties involved

In accordance with paragraphs 90 - 91 of the DVM the assessment of this area focuses on whether at least one written project approval by a Party involved in the JI project, other than the host Party(ies), has been issued by the DFP of that Party. It also should be assessed whether the written project approvals are unconditional.

The JI project "Implementation of energy efficiency measures at OJSC "Enakievo Metallurgical Works" has received the Letter of Approval from Ukraine, reference 166/23/7 dated 26/01/2011. The Letter of Approval from the investor country Netherlands, reference 2010JI28 was issued on 08/09/2010, the Letter of Approval from the investor country Switzerland, reference J294-0485 was issued on 28/06/2011.

A written project approval by Ukraine (host Party) and the Netherlands are available at:
http://ji.unfccc.int/JIITLProject/DB/FX1G65CCXNL6DMJKCKODRF3QL2Z3EF/details

Written project approval by Switzerland was presented as a supporting document (See Table 2 - Category 1 Documents, /12/).

The written project approvals mentioned above are unconditional.

Identified problem areas for project approval, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report (refer to CL 01).

4.2 Project implementation

In accordance with paragraphs 92-93 of the DVM the assessment of this area focuses on whether the project has been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website. The status of operation of the project during the monitoring period also should be assessed.

The project has been implemented in accordance with the PDD version 2.21 dated 14/07/2010 regarding which the determination has been deemed final.
This JI project is registered as Track 1 project. The description of this project is available in Section 2.3 of this Verification report.

The emission reductions generated by the JI project reported for the period from 01/04/2011 till 31/10/2012 amount to 673 040 tCO_2e.

The verification team of TÜV Rheinland (China) Ltd. (TÜV Rheinland) can confirm, through the on-site visit that all physical features of the proposed JI project activity including data collecting and storage systems have been implemented, the project is completely operational and has been implemented as described in the registered PDD version 2.21 dated 14/07/2010.

Identified problem areas for project implementation, project participants' answers and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report (refer to CARs 01-03 and CLs 02).

4.3 Compliance with monitoring plan

In accordance with paragraphs 94 - 98 of the DVM the assessment of this area focuses on whether 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.

The monitoring of the JI project occurred in accordance with the monitoring plan contained in the registered PDD, version 2.21 dated 14/07/2010.

For calculating the emission reductions key factors influencing the baseline emissions as well as risks associated with the project were taken into account, as appropriate. For more detailed information, please, refer to the determined and registered PDD, version 2.21 dated 14/07/2010.

All data sources used for calculating emission reductions are indicated in Section D.2 of the Monitoring Report, version 2.0 dated 03/12/2012.

The emission factor used to calculate emission reductions are selected in accordance with the registered PDD version 2.21 dated 14/07/2010. The choice of this emission factor is appropriately justified in the PDD version 2.21 dated 14/07/2010 and in general accuracy and reasonableness are carefully balanced.

The calculation of emission reductions is done based on conservative assumptions and the most plausible scenarios in a transparent manner. The calculation of the baseline emissions is based on the JI specific approach in accordance with the registered PDD version 2.21 dated 14/07/2010.

The calculation of emission reductions is done by subtracting the project emissions from the baseline emissions.
The detailed calculation of GHG emission reductions for chosen monitoring period (01/04/2011 – 31/10/2012) is provided in supporting documentation.

Identified problem areas for compliance with monitoring plan, project participants' answers and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report, Table 1 (refer to CARs 04-09 and CLs 03-04).

4.4 Revision of monitoring plan

If the project participants submitted to the AIE a revised monitoring plan, in accordance with paragraphs 99 - 100 of the DVM the assessment of this area focuses on whether the correct and complete justification for the proposed revision is provided, and whether the proposed revision improves the 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.

There was no revision to the monitoring plan. The monitoring of the JI project occurred in accordance with the monitoring plan contained in the registered PDD, version 2.21 dated 14/07/2010.

Problem areas concerning revision of the monitoring plan are absent.

4.5 Data Management

In accordance with paragraph 101 of the DVM the assessment of this area focuses on the quality of the information using standard auditing techniques provided in the monitoring report by assessing whether the data and their sources are clearly identified, reliable and transparent.

Data collection procedure is carried out in accordance with the monitoring plan, including the quality control and quality assurance procedures and has been checked by the verification team on site visit. The monitoring plan is presented in Section D of the registered PDD version 2.21 dated 14/07/2010. The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent.

The evidence and records used for the monitoring are maintained in a traceable manner. Verification team got an access to all necessary data on monitoring system and emission reductions and received necessary evidence on site visit.

The data collection and management system for the project is in accordance with the monitoring plan as described in the registered PDD version 2.21 dated 14/07/2010.

Identified problem areas for data management, project participants' answers and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Verification Report (refer to CARs 10-12 and CLs 05-06).

4.6 Assessment of data and calculation of greenhouse gas emission reductions

The verification team of TÜV Rheinland (China) Ltd. (TÜV Rheinland) verified that all parameters are used correctly in the calculations, all results are verifiable and transparent, all assumptions are described and based on verifiable evidence and calculations are done in accordance with the pre-defined formulae from registered PDD version 2.21 dated 14/07/2010.

According to the Monitoring Report, version 2.0 dated 03/12/2012 and GHG emission reductions calculation spreadsheet in Excel format the emissions for the project scenario, emissions for the baseline scenario and emission reductions for chosen monitoring period (01/04/2011 – 31/10/2012) are provided in table 7 below.

Table 7 - Results for Emission Reductions for Monitoring Period

Monitoring Period:	**01/04/2011 – 31/10/2012**
Emissions for the project scenario:	7 582 414 tCO_2e
Emissions for the baseline scenario:	8 255 454 tCO_2e
Emission reductions:	673 040 tCO_2e

4.7 Remaining issues, CARs, FARs from previous determination/verification

There were no issues remained from the previous verification.

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ANNEX A - VERIFICATION PROTOCOL

Table 1 - Requirements Checklist

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
1. Project approvals by Parties Involved				
1. 1. 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?	90	The JI project "Implementation of energy efficiency measures at OJSC "Enakievo Metallurgical Works" has received the Letter of Approval from Ukraine, reference 166/23/7 dated 26/01/2011. The Letter of Approval from the investor country Netherlands, reference 2010JI28 was issued on 08/09/2010, the Letter of Approval from the investor country Switzerland, reference J294-0485 was issued on 28.06.2011.	**CL 01.** Please clarify why the list of project participants indicated in the MR is different from that indicated in the PDD.	OK
1. 2. Are all the written project approvals by Parties involved unconditional?	91	All the written project approvals by the Parties involved are unconditional.	-	OK
2. Project implementation				
2.1. Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed	92	The JI project has registration number UA1000224.	**CAR 01.** Please add reference to the project	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
on the UNFCCC JI website?			page at the UNFCCC website where the written project approvals are available. **CAR 02.** Please provide a year-by-year analysis of the deviation of actual emission reductions compared to the estimates in the registered PDD in Section E.5.	
2.2. What is the status of operation of the project during the monitoring period?	93	The project aims at introduction of energy efficiency measures that will improve environmental conditions at the plant and on a local level; greenhouse gas emission reductions will be achieved. The project measures will also reduce energy costs per unit of iron and steel. In December 2006 Linde oxygen unit was commissioned. The blast furnace #5 was implemented in 2007 in accordance to registered PDD version 2.21. The boiler #7 of CHPP was commissioned after the reconstruction in March 2010. Boiler #6 of CHPP was commissioned after the	**CAR 03.** Please correct the tenses in description of the project activity from the future into the past where necessary in Section A to represent actual status of the project implementation. **CL 02.** Please clarify how the technological breakdowns at the enterprise described in Section B.1.1. influenced the amount of emission reduction during the monitoring period. Were there any GHG leakages associated with the breakdowns?	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		reconstruction in February 2011. During the monitoring period the reconstructed blast furnace #3 was commissioned (19/12/2011). Corresponding act of acceptance for the blast furnace is presented separately. Due to unexpected technical complexity of reconstruction as well as lack of financing, the commissioning of the new compressor K-1700 is delayed. Commissioning of the Compressor K-1700 is expected in August 2013.		
3. Compliance with monitoring plan				
3.1. Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final?	94	The determined monitoring plan is contained in the registered PDD version 2.21 dated 14/07/2010. There were no any changes or corrections to the registered monitoring plan.	**CL 03.** Please indicate the position of the person responsible for the monitoring report at the PJSC "Enakievo Metallurgical Works".	OK
3.2. For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) of DVM, influencing the baseline emissions or net removals and the	95 (a)	For calculating the emission reductions the key factors, e.g. those listed in 23 (b) (i)-(vii) of DVM, influencing the		OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?		baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate. For more details please see Section B of the registered PDD version 2.21 dated 14/07/2010.		
3.3. Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	95 (b)	During the monitoring the data used for calculating emission reductions have been taken from the next sources: • Technical reports of the plant; • Certificates from material and fuel suppliers; • Ukraine's National Inventory Report of GHG Sources and Sinks 1990 to 2010; • Order "Regarding approval of specific carbon dioxide emission factors in 2008" by the Ukrainian DFP; • 2006 IPCC Guidelines for National Greenhouse Gas	**CAR 04.** The parameter OXIDj used is formulae 3 and 26 is not described in the MR and is not applied for calculation in the Excel spreadsheet. Please describe the parameter including the data source and value or provide the necessary explanations.	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		Inventories; • Statistical documents of the plant. The data sources used for calculating emission reductions are reliable and transparent.		
3.4. 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?	95 (c)	The emission factors, used for calculating the emission reductions are: • Emission factor for power consumption; • Emission factors for natural gas, coal, coke, dolomite and lime consumption; • Emission factor for coke production. The choice of these emission factors is appropriately justified in the PDD version 2.21 dated 14/07/2010 and in general accuracy and reasonableness are carefully balanced.	-	OK
3.5. Is the calculation of emission reductions or enhancements of net removals calculated based on conservative assumptions and the most plausible scenarios in a transparent manner?	95 (d)	The calculation of baseline and project emissions is based on JI specific approach in accordance with	**CAR 05.** Please correct the monitoring parameters in the MR and Excel spreadsheet according to the actual	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		registered PDD version 2.21 dated 14/07/2010. The calculation of emission reductions is done by subtracting the project emissions from the baseline emissions. Baseline emissions are presented as a sum of baseline emissions from the blast furnaces, from the electricity consumption for oxygen and compressed air production, from the power plant and from coke production. Project emissions are presented as a sum of project emissions from the blast furnaces, from the electricity consumption for oxygen and compressed air production, and from the power plant.	data and recalculate project emissions, baseline emissions and emission reductions. **CAR 06.** Please add the description of fuel and materials under the index "i" to the description of the parameters in the formulae in Section E. **CAR 07.** The value of the historical consumption of coke in the MR and Excel spreadsheet are different. Please correct where necessary. **CAR 08.** The values of historical and monitoring data in Sections D.1. and D.2. are rounded to the integer. Please add the relevant explanation to the MR. **CAR 09.** The data units of steam consumption presented in Section D.2. are [Gcal] while those in Section E are [t]. Please conform the data units of steam consumption in the MR. **CL 04.** Please clarify if the calculation of emission reductions is based on	

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
			conservative assumptions.	
4. Applicable to JI SSC projects only				
4.1. 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 maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	96	N/A	N/A	OK
5. Revision of monitoring plan ***Applicable only if monitoring plan is revised by project participants***				
5.1. Did the project participants provide an appropriate justification for the proposed revision?	99 (a)	N/A	N/A	OK
5.2. Does the proposed revision improve the 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?	99 (b)	N/A	N/A	OK
6. Data management				
4.1. Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	101 (a)	The data collection procedure has been implemented in accordance with the monitoring plan as described in the registered PDD version 2.21 dated 14/07/2010. However the data collection procedure, quality control and quality assurance procedures	**CAR 10.** Please provide more detailed description of responsibilities of the plant departments regarding the monitoring to section C. Add the description of the department responsible for calibration of measurement equipment.	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		applied during the monitoring period are not sufficiently described in the monitoring report.	**CAR 11.** Please include all quality control and quality assurance procedures relevant to the monitoring to Section D of the MR. Provide the description of actions to be undertaken when the particular monitoring data is absent or invalid. **CL 05.** Please reference the description of abbreviations used in Figure 3.	
4.2. Is the function of the monitoring equipment, including its calibration status, is in order?	101 (b)	During the site visit it was confirmed that the measurement equipment applied for monitoring is subject to regular checks and calibrations. The Shop of Measurement Systems and Thermal Automatic and the central laboratory of the plant are responsible for the proper functioning and calibration of the measurement equipment and perform all the necessary procedures. The passports and calibration evidences of the measurement equipment are duly kept. However during the site visit it has been revealed that some data on the measurement equipment	**CL 06.** Please provide clarification why serial number of the natural gas flow meter measuring the consumption at BF#3 is different from that presented in the MR.	OK

CHECKLIST QUESTION	DVM* paragraph	Draft Conclusion	Action requested to project participants	Final Conclusion
		presented in the monitoring report does not correspond to the actual one.		
4.3. Are the evidence and records used for the monitoring maintained in a traceable manner?	101 (c)	The actual data and records used for monitoring are carried in a manner that can be traced. Verification team had access to all necessary data for monitoring and reducing emissions and obtained the necessary evidence in place.	**CAR 12.** Please provide the evidence that the monitoring data will be kept for two years after the last transfer of ERUs.	OK
4.4. Is the data collection and management system for the project in accordance with the monitoring plan?	101 (d)	The data collection and management system for the project is in accordance with the monitoring plan as described in the registered PDD version 2.21 dated 14/07/2010.	-	OK

DVM* - Joint Implementation Determination and Verification Manual, version 01

Table 2 - Resolution of CARs, CLs and FARs

No.	Type of request	Observation	Ref. to checklist question in table 1	Summary of project owner response	Verification team conclusion
1.	**CAR 01**	Please add reference to the project page at the UNFCCC website where the written project approvals are available.	Table 1, checklist question 2.1.	Response 1: The monitoring report specifies the ITL number of the JI project (UA1000224) as a reference to follow on the UNFCCC website for any information on the project provided by UNFCCC. No changes made to the monitoring report.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
2.	**CAR 02**	Please provide a year-by-year analysis of the deviation of actual emission reductions compared to the estimates in the registered PDD in Section E.5.	Table 1, checklist question 2.1.	Response 1: The monitoring report Section E.5 and Section E.6 were updated to provide a year-by-year analysis of the deviation of actual emission reductions compared to the estimates in the registered PDD	Conclusion 1: The issue is closed based on provided clarifications/corrections.
3.	**CAR 03**	Please correct the tenses in description of the project activity from the future into the past where necessary in Section A to represent actual status of the project implementation.	Table 1, checklist question 2.2.	Response 1: The tenses in the Section A were corrected from the future into the past where necessary.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
4.	**CAR 04**	The parameter OXIDj used is formulae 3 and 26 is not described in the MR and is not applied for calculation in the	Table 1, checklist	Response 1: The value of parameter OXIDj was taken equal to 1 for simplification.	Conclusion 1: The issue is closed based on provided

		Excel spreadsheet. Please describe the parameter including the data source and value or provide the necessary explanations.	question 3.3.	Appropriate reference was added in the monitoring report.	clarifications/corrections.
5.	**CAR 05**	Please correct the monitoring parameters in the MR and Excel spreadsheet according to the actual data and recalculate project emissions, baseline emissions and emission reductions.	Table 1, checklist question 3.5.	Response 1: Monitoring parameters in the MR and Excel spreadsheet were applied according to the actual data; project emissions, baseline emissions and emission reductions were recalculated appropriately.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
6.	**CAR 06**	Please add the description of fuel and materials under the index "i" to the description of the parameters in the formulae in Section E.	Table 1, checklist question 3.5.	Response 1: The monitoring report Section E was updated to add description of fuel and materials to the formulae.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
7.	**CAR 07**	The value of the historical consumption of coke in the MR and Excel spreadsheet are different. Please correct where necessary.	Table 1, checklist question 3.5.	Response 1: The value of the historical consumption of coke in the monitoring report was corrected to correspond to the EXCEL spreadsheet.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
8.	**CAR 08**	The values of historical and monitoring data in Sections D.1. and D.2. are rounded to the integer. Please add the relevant explanation to the MR.	Table 1, checklist question 3.5.	Response 1: The appropriate explanation on the rounding the data values was added in the Sections D.1 and D.2 as applicable.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
9.	**CAR 09**	The data units of steam consumption presented in Section D.2. are [Gcal] while those in Section E are [t]. Please conform the data units of steam consumption in the MR.	Table 1, checklist question 3.5.	Response 1: The Section E was corrected to bring to conformity data units of steam consumption.	Conclusion 1: The issue is closed based on provided clarifications/corrections.

10.	**CAR 10**	Please provide more detailed description of responsibilities of the plant departments regarding the monitoring to section C. Add the description of the department responsible for calibration of measurement equipment.	Table 1, checklist question 4.1.	Response 1: The detailed description of the responsibilities of plant departments was added to Section C. The description of department responsible for calibration of measurement equipment was added to Section C (see the description for SMS and TA).	Conclusion 1: The issue is closed based on provided clarifications/corrections.
11.	**CAR 11**	Please include all quality control and quality assurance procedures relevant to the monitoring to Section D of the MR. Provide the description of actions to be undertaken when the particular monitoring data is absent or invalid.	Table 1, checklist question 4.1.	Response 1: The quality control and quality procedures relevant to the monitoring were included in the monitoring report where applicable. The description of actions to be undertaken when the particular monitoring data is absent or invalid was added in the monitoring report where applicable.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
12.	**CAR 12**	Please provide the evidence that the monitoring data will be kept for two years after the last transfer of ERUs.	Table 1, checklist question 4.3.	Response 1: In the supporting documents, please find a copy of the Order #711 as 25/06/2010 on keeping the monitoring data.	Conclusion 1: The issue is closed based on provided documents.
13.	**CL 01**	Please clarify why the list of project participants indicated in the MR is different from that indicated in the PDD.	Table 1, checklist question 1.1.	Response 1: Metinvest International S.A. has received LoA from Switzerland. Greenstream Network GmbH has not received LoA from Germany as intended at the PDD stage.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
14.	**CL 02**	Please clarify how the technological	Table 1,	Response 1:	Conclusion 1: The issue is closed based on

		breakdowns at the enterprise described in Section B.1.1. influenced the amount of emission reduction during the monitoring period. Were there any GHG leakages associated with the breakdowns?	checklist question 2.2.	The equipment downtime influenced slight decreasing of the amount of emission reductions during monitoring period. There were no GHG leakages determined associated with the breakdowns.	provided clarifications/corrections.
15.	**CL 03**	Please indicate the position of the person responsible for the monitoring report at the PJSC "Enakievo Metallurgical Works".	Table 1, checklist question 3.1.	Response 1: The monitoring report was updated to clarify the position of the person responsible for the monitoring report at the PJSC "Enakievo Metallurgical Works".	Conclusion 1: The issue is closed based on provided clarifications/corrections.
16.	**CL 04**	Please clarify if the calculation of emission reductions is based on conservative assumptions.	Table 1, checklist question 3.5.	Response 1: The calculation of emission reductions was based on the conservative assumptions: the rounding of calculation data applied to obtain conservative emission reductions results.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
17.	**CL 05**	Please reference the description of abbreviations used in Figure 3.	Table 1, checklist question 4.1.	Response 1: The Section C was updated to add an appropriate reference for the description of abbreviations.	Conclusion 1: The issue is closed based on provided clarifications/corrections.
18.	**CL 06**	Please provide clarification why serial number of the natural gas flow meter measuring the consumption at BF#3 is different from that presented in the MR.	Table 1, checklist question 4.2.	Response 1: The gas flow meter at BF#3 was replaced by the new one. Please see the act on replacement in the supporting documents.	Conclusion 1: The issue is closed based on provided documents.