

VERIFICATION REPORT

Document Prepared By

TÜV Rheinland Energy GmbH

Accreditation number D-VS-11120-01-00

Project Title	Gas-to-Power (G2P) Ghelinta
Project Proponent	OMV Petrom Petrom City, Coralilor Street No. 22, Postal code 013329 District 1, Bucharest, Romania

Verification period	01.01.2022 – 31.12.2022
Verified UERs	8,375,055,908 gCO _{2,eq}
Unique identifier	0936_TUEV_2015105_2022_045.9119N,026.3255E_0016156.0024531

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Summary:

TÜV Rheinland Energy GmbH was assigned to perform verification of the monitoring period 01.01.2022 – 31.12.2022 for the upstream emission reduction project “Gas-to-Power (G2P) Ghelinta” against the verification criteria set under the Council Directive (EU) 2015/652 of 20 April 2015 and the Guidance Note of the Council Directive (EU) 2015/652 on approaches to quantify, verify, validate, monitor and report upstream emission reductions as well as on the Austria’s “Kraftstoffverordnung” (KVO) and in accordance with the ISO 14064-3: 2019 and all other relevant requirements, considering the reasonable materiality threshold of 5%.

The UER project activity was implemented in order to recover and utilize the associated gas in a Gas-2-Power (G2P) plant in Romania, which had been flared before the project was implemented.

The verification was performed in 4 main steps, namely

- Desk review – covering all provided documents, i.e. current monitoring report, validated PD, validation report, monitoring report on previous monitoring period and the corresponding verification report, ER calculations, records on volume of recovered associated gas (AG), records on NCV of the recovered AG, records on physical parameters and gas composition of the recovered AG, manuals, etc. (listed in section 2.2)
- Verification audit (described in section 2.4) – confirming the correctness of the monitoring report, interviews with the project proponent (PP), stakeholders and the UER consultant (see Section 0), observation of data processing and storage, confirmation of metering devices, plausibility checks.
- Issuance of verification protocol (see APPENDIX I), a list of corrective action requests and clarifications (see APPENDIX II)
- Issuance of the verification report “Verification Report of the UER Project “G2P Ghelinta” for the verification period from 01.01.2022 until 31.12.2022”.

The Verification Team identified 2(two) corrective action requests (CARs), 11 (eleven) clarification requests (CLs) and one forward action request from previous verification. The findings were satisfactorily addressed by the project participant and closed accordingly prior to the issuance of this final Verification Report.

Finally based on the provided documentation and site inspection, TÜV Rheinland Energy GmbH issues a positive verification opinion on the UER project activity “Gas-to-Power (G2P) Ghelinta”, confirming that for the monitoring period 01.01.2022 – 31.12.2022 GHG emission reduction of 8,375,055,908 gCO_{2,eq} are realised from the aforementioned project activity.

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1 Introduction

1.1 Project Name

Gas-to-Power (G2P) Ghelinta

1.2 Project Proponent

OMV Petrom

Petrom City, Coralilor Street No. 22, Postal code 013329

District 1, Bucharest, Romania

The above mentioned entity is referred to as the project proponent of the project activity “Gas-to-Power (G2P) Ghelinta” as indicated in the validated PD v2.1 dated 25.09.2015.

As it was checked in previous verification the project ownership of G2P Ghelinta has been transferred from OMV Petrom (original owner of the facility) to Mazarine Energy Romania S.R.L in October 2016.

Nevertheless, the rights to utilize and the legal title of any emission reduction that result from the operations of the facility G2P Ghelinta remain with OMV Petrom. The ownership of emission reduction rights have been concluded in an additional agreement between Mazarine Energy and OMV Petrom on 20th August 2019 that was shown and verified during on-site audit.

1.3 Verification of monitoring period

01.01.2022 – 31.12.2022

1.4 Period during which Verification was carried out

The Verification Body TÜV Rheinland Energy GmbH was commissioned to perform the verification of the project activity in question for the above mentioned verification period by the OMV Downstream GmbH (identified as project participant and contracting entity for the verification services) on 27.02.2023.

1.5 Date of the Verification Audit

28.03.2023 on-site verification audit.

1.6 Upstream Emission Reduction

8,375,055,908 gCO_{2,eq} for the verification period from 01.01.2022 to 31.12.2022.

1.7 Methodology

The upstream emission reductions achieved by the proposed project activity are quantified based on the approved CDM large-scale methodology AM0009 “Recovery and utilization of gas from oil fields that would otherwise be flared or vented” v07.0.

1.8 Summary Description of the Project

The project activity “Gas-to-Power (G2P) Ghelinta” is located in the Covasna County in the north-east of Romania and was formerly part of Asset VIII OMV Petrom until ownership was transferred to Mazarine Energy.



Figure 1: Project Location

The geographic coordinates of the project site (26°19'32.10" East; 45°54'41.20" North) and the geographic coordinates of the flare stack (26°19'21.513" East; 45°54'42.165" North), which are indicated in the final Monitoring Report of monitoring period 01.01.2022 – 31.12.2022, correspond to the ones given in the validated PD and are verified by the Verification Team during on-site inspection.

“Gas-to-Power (G2P) Ghelinta” is a flaring reduction GHG emission mitigation project, where associated gas from oil fields that has been flared, before project implementation, is recovered and utilized. The Project is the installation of a Gas-to-Power (G2P) plant at Park 1 Ghelinta in order to make use of the previously flared gas and obtain electricity for on-site operation. Associated gas quantity delivered and burnt by the G2P engines is 11,200 Nm³/day according to environmental authorization.

In October 2015, the project activity was validated to be compliant with the requirements of ISO 14064 Part 2, implementing COUNCIL DIRECTIVE (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels. In

December 2018, the project activity was validated to be compliant with the requirements of Austrian Kraftstoffverordnung BGBl 2018-II-86.

1.9 Objective

The purpose of verification is to review the monitoring results and to verify that monitoring was completed in accordance to the validated monitoring plan, as well as to confirm that the claimed reductions in anthropogenic emissions is sufficient, definitive and presented in a concise and transparent manner.

Therefore, the objective of this verification was

- to confirm that the project has been implemented as documented in the validated PD,
- to confirm that the project has been implemented in line with the Council Directive (EU) 2015/652 and
- to provide qualitative and quantitative evaluation of the upstream emission reductions, reported for the “Gas-to-Power (G2P) Ghelinta” for the monitoring period from 01.01.2022 to 31.12.2022 (both days included).

1.10 Scope and Criteria

The verification implies a review of the Monitoring Report over the monitoring period from 01.01.2022 to 31.12.2022 against the Council Directive (EU) 2015/652 and associated interpretation and in accordance with the ISO 14064-3. The verification is based on the validated Project Documentation and Monitoring plan (PD) v2.1 dated 25.09.2015; in particular considering the sections related to baseline- and project emission reductions calculations, parameters to be monitored, monitoring plan and monitoring methodology. In addition, the PP provided the verification report for the previous monitoring periods 01.01.2020 – 31.12.2020 and 01.01.2021 - 31.12.2021, as well as further relevant documents and supplementary information to assist the verification process.

The main steps in the verification process are:

- Desk review – covers the evaluation of all provided documents, i.e. current monitoring report, validated PD, validation report, monitoring report on previous monitoring periods and the corresponding verification reports, ER calculations, records on volume of recovered associated gas (AG), records on NCV of the recovered AG, records on physical parameters and gas composition of the recovered AG, calibration reports, as well as manuals and records.
- Verification audit (on-site inspection) – confirms that the project has been implemented as described in the PD and that all data and information provided in the monitoring report are correct. It has been carried out on 28.03.2023.

- Issuance of verification protocol and list of CARs & CLs.
- Issuance of final verification report for the monitoring period in question - gives a conclusion whether the reported data are accurate, complete, consistent, and transparent, with a high level of assurance and free of material error or misstatement.

The correct application of

- the approved CDM large-scale methodology AM0009 "Recovery and utilization of gas from oil fields that would otherwise be flared or vented" v07.0;
- referred methodological tools and guidelines as well as;
- criteria given to provide for consistency in project operations, monitoring and reporting;

was already validated and summarized within the Validation Bureau Veritas Report dated 25.09.2015.

The verification considers both quantitative and qualitative information on emission reductions. The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

1.11 Materiality

As per the ISO 14064-3: 2019, materiality is defined as "concept that individual misstatements or the aggregation of misstatements could influence the intended users' decisions." It refers to error in value in the GHG statement, such as misstatements, incomplete inventories, misclassified GHG emissions or misapplication of calculations

The objective of the project verification is to provide assurance to OMV Downstream GmbH that GHG assertions truly reflect the emission reductions achieved. A material discrepancy is, according to ISO 14064-3, characterized by the possibility that the intended user of the GHG assertions will be influenced by such a discrepancy.

However, no quantitative threshold is defined by the ISO 14064-3:2019 standard. The verification team set the materiality threshold to 5% of the overall GHG project emission reductions and mutually communicated the value to the client. The materiality threshold is in line with the one stipulated in the EU monitoring guidelines applied to facilities with CO₂ emission of less than 500,000 t CO_{2,eq}.

1.12 Verification Team

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1.13 Level of Assurance

The verification team has focused on providing a reasonable level of assurance that the emission reduction calculation methodology is appropriate and correctly applied, as well as that Upstream Emission Reductions have been accurately monitored. During the course of verification all primary data at the data source shall be examined in order to verify the UER assertions.

1.14 Summary Result of the Verification Process

The verification team came to the conclusion that based on the provided documentation and the remote verification audit, GHG assertion was made in accordance with

- The Council Directive (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC (Fuel quality directive),
- The Guidance Note of the Council Directive (EU) 2015/652 on approaches to quantify, verify, validate, monitor and report upstream emission reductions as well as

- The Austria's Fuel Decree "Kraftstoffverordnung" (KVO)

and was material correct and fairly represented the GHG emissions data and information without material discrepancies.

Therefore, TÜV Rheinland Energy GmbH issues a positive verification opinion on the project "Gas-to-Power (G2P) Ghelinta", confirming that for the monitoring period 01.01.2022 – 31.12.2022, GHG upstream emission reduction of 8,375,055,908 gCO_{2,eq} are realised from the aforementioned project activity.

2 Verification Process

As stipulated in Council Directive (EU) 2015/652 Annex I part 1 (3) d ii “the UERs and baseline emissions are to be monitored, reported and verified in accordance with ISO 14064 and providing results of equivalent confidence of Commission Regulation (EU) No 600/2012 (6) and Commission Regulation (EU) No 601/2012 (7). The verification of methods for estimating UERs must be done in accordance with ISO 14064-3: 2019 and the organisation verifying this must be accredited in accordance with ISO 14065”.

The above mentioned general principles and key requirements of verifiers and the verification process, as indicated in Commission Regulation (EU) No 600/2012, are:

- The process of verifying emission reports shall be an effective and reliable tool in support of quality assurance and quality control procedures (Article 6).
- The verifier must carry out verification in the public interest and with an attitude of professional scepticism of the claims being verified (Article 7).
- The verifier shall conduct substantive testing using analytical procedures, including verifying data and checking the monitoring methodology, and shall conduct site visits (Article 14-21).
- All verification reports shall be independently reviewed (Article 25).
- All verification personnel (Article 35) and independent reviewers (Article 38) shall be competent.
- Verifiers shall be impartial and independent from an operator (Article 42).
- All verifiers shall be accredited for the scope of activities being verified (Article 43-44).

The Verification Team confirms that the verification process of the project “Gas-to-Power (G2P) Ghelinta” for the monitoring period 01.01.2022 – 31.12.2022 is accomplished in compliance with the above listed principles and key requirements.

2.1 Method and Criteria

The verification of the UER project “Gas-to-Power (G2P) Ghelinta” has been performed in accordance to the internal procedures of TÜV Rheinland Energy GmbH for the verification of UER projects, which strictly follow ISO 14064-3: 2019.

TÜV Rheinland did not deploy a risk-based approach but applied a 100% coverage of all data used for UER calculations tracked back to its original source.

2.2 Document Review

The desk review phase is characterised by the assessment of the monitoring report and emission reduction workbooks substantiated by additional supportive documents, all of which have been provided to the Verification Team in a digital form. The following table outlines the documents reviewed as part of the verification process:

Nr	Title	Date of submission
1	COUNCIL DIRECTIVE (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels, dated 25.04.2015	
2	GUIDANCE NOTE on approaches to quantify, verify, validate, monitor and report upstream emission reductions	
3	Approved CDM large-scale methodology AM0009 "Recovery and utilization of gas from oil fields that would otherwise be flared or vented" v07.0	
4	Antragsformular_UER_V1.1_OMV_G2P-Ghelinta_Anhang-Projektdokumentation_v2.1 (PD)	21/03/2023
5	Antragsformular_UER_V1.1_OMV_G2P-Ghelinta_Anhang-Projektdokumentation_v2.1_Attachment-1	21/03/2023
6	Antragsformular_UER_V1.1_OMV_G2P-Ghelinta_Anhang-Validierungsbericht_v1.0	21/03/2023
7	Antragsformular_UER_V1.1_OMV_G2P-Ghelinta_Anhang-Validierungsbericht_v1.0_Attachment-1	21/03/2023
8	20220819-UER-042_OMV Ghelinta_VR2_signed (VER 2020)	21/03/2023
9	2021-05-20-UER-042_OMV Ghelinta_VER01_VR_V01 (VER 2021)	21/03/2023
10	UER G2P-Ghelinta_MR2022_Monitoring report v1	23/03/2023
11	UER G2P-Ghelinta_MR2022_Detailed quantification of emissions_20230323	23/03/2023
12	Calibration Report_Flow Meter DFC-06_20200819	23/03/2023
13	20220622_Ghelinta_Gas Analysis_Summer	23/03/2023
14	20220622_Ghelinta_Gas Analysis_Winter	23/03/2023
15	12 Monthly Report Mazarine	23/03/2023
16	Agreement Mazarine - OMV Petrom_redacted (2).pdf (main agreement, dated 1.8.2019)	17/04/2023
17	MER_AO_AddendumNo1_OMV Agreement Mazarine Final-signed.pdf (addendum for contract prolongation)	17/04/2023
18	LI 1017 C OMV PETROM (Accreditation from ICPT valid until 31.03.2026)	17/04/2023
19	UER G2P-Ghelinta_MR2022_Monitoring report v2_20230405	17/04/2023
20	UER G2P-Ghelinta_MR2022_Detailed quantification of emissions_v2_20230405	17/04/2023
21	G2P-Ghelinta_flowmeter system description 2015	19/04/2023
22	G2P-Ghelinta_flowmeter system technical details	19/04/2023
23	Operational_Procedure_EN_Final	19/04/2023

2.3 Interviews

The interview process was conducted during the on-site audit with Mazarine, UER consultants and OMV personnel. The relevancy of methodology and requirement of standard had been discussed during the validation process. Therefore, the discussion was focused on monitoring plan and procedure to maintain GHG data and information for baseline scenario and project emission is complete, verifiable, no misstatement and misapplication of calculation.

The interviews took place on 28th of March 2023 and was conducted by Ms. Florencia Tamanini and Mr. Julius Averkorn at Ghelinta facilities. Beside the auditor and trainee from TÜV Rheinland the following additional persons participated in the interviews:

Name	Organisation / Function
Neslihan Kumcu	OMV Downstream GmbH/ Biofuels Compliance & UER Mgmt.
Oliver Percl	Energy Changes Projektentwicklung GmbH / Project manager (UER- consultant)
Sylvie Rietmann	Energy Changes Projektentwicklung GmbH / Project manager (UER- consultant)
Mihai Dobre	Mazarine / Head of Energy
Cretu Costel	Mazarine / Team Leader
Erdely Sandor	Mazarine / Park Operator
Neda Laszlo	Mazarine / Park Operator
Mihaela Zaiet	OMV Petrom / UER Key Focal point

2.4 Site inspection

The objective of the verification audit is to acquire details on project management and operation, prove validity and authenticity of delivered supporting documents, and to assess the situation on the ground against the description in the documents. The audit was carried out by means of interviews with the persons indicated in section 0, assessment of the presented supportive documentation and personal observations.

The verification audit investigates whether the statements given in the project document are complete, technically feasible and plausible, and lead to real and measurable emission reductions or removals. Areas of special interests are project description, baseline methodology and calculation, environmental impact and monitoring plan. The assessment was

also devoted for a better understanding of the operations, the data gathering processes and links to data systems, management controls, and overall information systems. This included a review of the baseline, project and potential leakage emissions at the facilities, achieved through interviews with appointed personnel and reviews of the process flow and data flow diagrams. Subsequently, a review of metering and data management processes was discussed with the control room operation staff, including a review of meter calibration and QA/QC procedures.

The verification audit of the project activity “Gas-to-Power (G2P) Ghelinta” for the monitoring period 01.01.2022 – 31.12.2022 took place on 28.03.2023 in Romania.

The physical features and points of monitoring for the measured parameters have been confirmed to be in line with the description in the validated PD.

Eventually, the conducted Verification Audit for the monitoring period 01.01.2022 – 31.12.2022, confirms that the monitoring and reporting of the achieved upstream emission reductions for the period in question, is carried out in line with the verification principles and criteria postulated by the ISO 14064 and the EU 2015/652 and is in accordance with the monitoring plan specified in the validated PD.

2.5 Resolution of Findings

The objective of this phase of the verification is to resolve any outstanding issues which have to be clarified prior to final verifier’s conclusions on the project implementation, monitoring practices and achieved emission reductions. In order to ensure transparency a verification protocol (APPENDIX I) is completed for the project activity. The protocol shows in transparent manner the verification criteria (requirements) as given by the EU 2015/652 and ISO 14064-2:2019, means of verification and their results against the identified criteria, including findings. The last can be issued either as a non-fulfilment of the applied ER quantification methodology and EU 2015/652 requirements, or where a risk to the fulfilment of project objectives is identified.

In addition to and as a complement to the verification protocol, APPENDIX II List of correction action requests (CARs) and clarification requests (CLs) is issued, keeping records of all findings identified in the verification process and how those have been solved. Corrective action requests (CAR) are issued where mistakes have been made with a direct influence on project result; whereas clarifications (CL) - where additional information is needed to fully clarify an issue.

In the course of the verification of “Gas-to-Power (G2P) Ghelinta” for the monitoring period 01.01.2022 – 31.12.2022, the Verification Team identified and issued 2(two) corrective action

requests (CARs) and 11 (eleven) clarification requests (CLs), which are transparently organised in APPENDIX II.

The Verification Report is issued upon closing all above mentioned findings.

2.6 Forward Action Requests

By checking the previous verification, version 01 dated 19th August 2022, the verification team confirmed that there is one remaining forward action request (FAR) identified, which has been assessed and properly closed (refer to APPENDIX II for further details). Within this verification no new forward action requests have been issued.

3 Verification Findings

The outcomes of the verification of project activity “Gas-to-Power (G2P) Ghelinta” for the monitoring period 01.01.2022 – 31.12.2022 performed by TÜV Rheinland Energy GmbH are explicitly discussed in the following sections.

3.1 Implementation Status

The Verification Team witnessed that the project activity “Gas-to-Power (G2P) Ghelinta” was implemented and operated as described in the validated PD.

During the verification audit, it was confirmed that the main components of the Ghelinta G2P plant are the two Gas (piston) engine - electrical generator - HMI (Human Interface Machine) assemblies within an acoustic enclosure, type ECOMAX 11, equipped with a General Electric Jenbacher J416 GS-B01 gas engine, including all necessary auxiliary equipment. The equipment at Gas-to-Power (G2P) Ghelinta is used to exploit the chemical energy of the previously flared gas, in order to obtain electrical energy for Mazarine Energy internal consumption.

It was also confirmed that all procedures relevant to the project are documented electronically as part of OMV Petrom’s management system, and those procedures are followed by Mazarine Energy.

The Verification Team approved that the elaborated monitoring plan, which follows the selected approved CDM Methodology AM0009 v07.0 and is an essential part of the PD, is accurately implemented for the monitoring period in question. The parameters that are subject to monitoring have been monitored in full accordance with the measurement methods and procedures, monitoring frequency and quality assessment specified in the PD, namely

- FC_y - Quantity of fuel type “i” combusted in process “j” during the year “y”, and
- $NCV_{RG,y}$ - Average net calorific value of the recovered gas (flared gas) in year y

For the parameter $EF_{CO_2,y}$ (CO_2 emission factor for the recovered gas), in the previous monitoring periods the following has been applied: “Currently there is no other more accurate EF factor from gas analyses or from the Romanian EU ETS System available. Therefore, a conservative IPCC CO_2 standard EF for natural gas has been chosen. The application of the IPCC factor will be continuously re-viewed by re-assessing a site specific CO_2 emission factor based on gas analyses.”

Such review has been done and it was found that the gas analysis done in 2022 provides all information for the calculation of a site specific CO_2 emission factor. Therefore, this parameter is also subject to monitoring in full accordance with the measurement methods and procedures as properly described in the final monitoring report v2 dated 05.04.2023.

Furthermore, the Verification Team attests that the Gas-to-Power (G2P) Ghelinta was validated in September 2015 as upstream emission reduction (UER) project to comply with the requirements of ISO 14064 Part 2 and in December 2018 to comply with Austria's Fuel Ordinance¹ dated 30 Apr 2018 implementing COUNCIL DIRECTIVE (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels.

In May 2021, the UERs generated by the project over the monitoring period 01.01.2020 – 31.12.2020 have been verified for intended usage under the Austria's Fuel Decree "Kraftstoffverordnung" (KVO). As well as in August 2022, the UERs generated by the project over the monitoring period 01.01.2021 – 31.12.2021 have been verified for intended usage under the same decree.

Verification team confirms that the project "Gas-to-Power (G2P) Ghelinta" has been erected and is operating as described in the validated PD and the final Monitoring Report for the current verification period 01.01.2022 – 31.12.2022. The monitoring of the generated GHG emissions has been implemented in compliance with the monitoring plan contained in the validated PD, fulfilling all requirements related to data acquisition and storage.

3.2 Accuracy of Upstream Emission Reduction Calculations

The Project Proponent, OMV Petrom, claims the reduction of upstream GHG emission by recovery of associated gas from oil fields and conversion for electricity production, as well as per the selected approved Methodology AM0009 v07.0 and in accordance with the ISO 14064-2, the net GHG emission reductions generated by the project activity are determined as difference between baseline emissions, project emissions and leakage for the monitoring period, i.e.

$$ER_y = BE_y - PE_y - LE_y$$

Where

- baseline emissions (BE) are determined by multiplying volume, net calorific value and carbon emission factor of the gas measured at the metering point, i.e.

$$BE_y = FC_y * NCV_{RG,y} * EF_{CO_2,y}$$

- project emissions (PE) are determined to be 0 tCO_{2,eq}/year, because the mass of fugitive project emissions has been assumed to be below 2% and they are not considered.

$$PE_y = 0 \text{ tCO}_{2,eq}$$

¹ § 19b of the 'Kraftstoffverordnung'

- leakage emissions (LE) need not to be considered as per AM0009 v07.0.

$$LE_y = 0 \text{ tCO}_{2,eq.}$$

The applied methodology suggests that the LE shall be accounted “for project activities where the recovered gas is transported to a processing plant where it is processed into hydrocarbon products (e.g. dry gas, LPG and condensates) and the dry gas is compressed to CNG first, then transported by trailers/trucks/carriers and then decompressed again, before it finally enters the gas pipeline”.

The abovementioned formula are clearly referred to within the monitoring report and used for the calculation of the generated UER within the final calculation workbook. Therefore, the Verification Team confirms that the claimed UERs are calculated as per the selected approved CDM methodology and as specified in the monitoring plan within the validated PD.

The quantification of generated GHG emission reductions is based on 3 parameters (FC, NCV and EF_{CO_2}), which have been specified in section 3.1 of this report. As per AM0009 v07.0, those parameters are subject to periodic monitoring. During the verification audit, the Verification Team witnessed that all 3 parameters are measured accordingly. In the course of the desk review and the on-site audit following observation with regard to the above mentioned parameters were made:

- The molecular gas composition is determined using Daniel 700 gas chromatograph and a GasVLE software based on the gas equation of state. This is further analysed to determine the CO₂ emission factor of the gas and the NCV.
- Volume of associated gas combusted is measured continuously by flowmeter DFC 06 and processed automatically to SCADA. Extract reports on hourly, daily and/or monthly basis can be generated upon request.
- The monthly reports are provided to Ms Zaiet and to Ms Kumcu.

For the desk review, the Verification Team was provided with all primary data on volume, NCV and emission factor of recovered gas, namely monthly Mazarine’s reports on volume, energy delivered and operation hours, as well as calibration certificates of the metering unit, incl. the gas chromatograph.

All primary data were provided to the Verification Team in a digital form for the desk review phase of the verification process and were explicitly presented and examined in the course of the verification audit. Assessment of data collection and processing procedure as well as data quality is subject of the following section 3.3. Nevertheless, the applied values for the aforementioned monitoring parameters have been scrutinised by the Verification Team and deemed to be correctly applied for the estimation of upstream emission reductions within the final UER calculation workbook for the verification period in question and accordingly referenced in the final monitoring report.

Eventually, Verification Team attests that the upstream emission reductions realised by the project activity “Gas-to-Power (G2P) Ghelinta” for the monitoring period 01.01.2022 – 31.12.2022 are calculated correctly and in accordance with the approved CDM methodology AM0009 v07.0, resulting in

$$UER_{01.01.2022 - 31.12.2022} = BE - PE - LE = 8,375,055,908 \text{ gCO}_{2,eq}$$

The ex-ante estimated UERs is 9,240 tCO_{2e}, which has been confirmed by checking the estimated value in approved PDD. Therefore, the actual UERs achieved during this monitoring period is 9.4% lower than the estimates in the validated PD. It is considered to be reasonable.

3.3 Quality of Evidence to Determine GHG Emissions, GHG Emission Reductions and GHG Removal Enhancements

As part of the verification process, TÜV Rheinland Energy GmbH assesses the sufficiency of quantity and appropriateness of quality of evidence used to determine the upstream GHG emission reductions achieved by the project activity undergoing verification.

Therefore, the Verification Team confirms that the lead partner of the Gas-to-Power (G2P) Ghelinta, OMV Petrom, developed specific internal procedures designated for the monitoring of the upstream emission of the project, which is in line with the validated monitoring plan.

All substantiations, which have been disclosed to the Verification Team, are listed in section 2.2 of this report. The provided primary data on volume, calorific value and chemical composition of the recovered associated gas, as discussed and referenced in the previous section 3.2, cover the entire monitoring period from 01.01.2022 to 31.12.2022. Thus, Verification Team experienced no omission of evidences for the project and monitoring period in question.

For the calculation of GHG emission reductions due to the project activity during the monitoring period, the carbon consultant used only primary data for the three monitoring parameters. In order to verify this, all data used in the UER calculation workbook were tracked back to its origin at a coverage rate of 100% using the monthly reports on recovered associated gas.

In addition, Verification Team witnesses that the flow of data from its origin (metering device) to its final destination (UER calculation spreadsheet) is precisely defined within the monitoring plan. In the course of verification audit the involved parties in the monitoring process (head of energy, park operators, plant manager, UER key focal point) confirmed that they firmly follow the established and validated monitoring plan and procedures.

Mazarine’s head of energy stated that there is a clear assignment of key responsibilities on site and that the assigned personnel have the required professional experience. The same

personnel as in previous reviews are still working and properly trained. It was confirmed that the training of the personnel is in accordance with the best practices.

Furthermore, the Verification Team ascertains that all parameters, subject to monitoring as per CDM methodology AM0009 v07.0, are monitored via calibrated measurement device, Daniel 700 gas chromatograph and GasVLE software at metering point, which is clearly indicated within the final monitoring report. The calibration reports for the metering system were submitted to the Verification Team for desk review. During the verification audit maintenance procedures and records on calibration were discussed. The plant manager explained that the frequency of flowmeter calibration is 4 years according to the equipment manufacturer, due to the fact that, as an internal flowmeter, it is not subject to national legal metrological control. This statement has been verified by observation during site visit. As per the provided calibration reports, Verification Team witnessed that the latest calibration was conducted on 19th August 2020.

Hence, the Verification Team attests that the lead partner established outstanding data quality through continuous and automatic data measurement, and clearly defined data reporting and assessment procedures, where the calibration frequency of the respective measuring instruments complies with the stipulations of the manufacturer specifications and of the monitoring plan within the validated PD.

3.4 Findings and Non-Conformities

The verification team identified two (2) corrective action requests and eleven (11) clarification request. All findings have been closed including review of revisions to the monitoring report and UER calculations, before finalising the verification.

4 Verification conclusion

The Verification Team of TÜV Rheinland Energy GmbH has performed the verification for the project “Gas-to-Power (G2P) Ghelinta” against the Council Directive (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC (Fuel quality directive), the Austria’s Fuel Decree “Kraftstoffverordnung” (KVO) and ISO 14064-3:2019, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The Verification Team concluded that the project activity as described in the final Monitoring Report for the monitoring period 01.01.2022 – 31.12.2022, dated 05.04.2023, meets all relevant requirements of the above-defined regulations. All relevant information and evidence acquired during the verification process are included in the current document, i.e. Verification Report of the UER Project “G2P Ghelinta” for the verification period from 01.01.2022 until 31.12.2022, with report ID **21257968** issued on 02.06.2023.

TÜV Rheinland, therefore issues a positive verification opinion, confirming that the upstream emission reductions claimed for the monitoring period 01.01.2022 – 31.12.2022 are verified to be 8,375,055,908 gCO_{2,eq}.

5 VERIFICATION STATEMENT

OMV Petrom

Petrom City, Coralilor Street No. 22, Postal code 013329
District 1, Bucharest, Romania

02.06.2023

RE: Gas-to-Power (G2P) Ghelinta

Monitoring Period: 01.01.2022 – 31.12.2022

OMV Petrom, with its registered office in Bucharest, Romania, has contracted TÜV Rheinland Energy GmbH to review and verify their UER Monitoring Report covering the period from 01.01.2022 to 31.12.2022 and all assertions related to the UER project against the Council Directive (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC (Fuel quality directive), and the Austria's Fuel Decree "Kraftstoffverordnung" (KVO).

The verification of the UER project activity was conducted in accordance to the above mentioned regulations, the standard ISO 14064-3: 2019 and the approved CDM methodology AM0009 v07.0 to a reasonable level of assurance by applying a materiality threshold of 5%. The project activity "Gas-to-Power (G2P) Ghelinta" is confirmed to be carried out in accordance with the validated project documentation. The monitoring report is consistent with validated monitoring plan. The calibration frequency of the respective metering devices is demonstrated to follow the stipulations of the calculation methods and of the monitoring plan. The project information is verified and the UER Verification Report ID **21257968** "Verification Report of the UER Project "G2P Ghelinta" for the verification period from 01.01.2022 until 31.12.2022" delivered on 02.06.2023, includes all relevant information and evidence acquired during the verification process.

Based on the on-site inspection conducted on 28th March 2023 and the review of all available project documentation, the Verification Team comes to the conclusion that the assertions are made in accordance with the requirements of the formerly listed regulations and standard, and are material correct and fairly represent the required parameters without material discrepancies. The Upstream Emission Reductions, claimed for the monitoring period 01.01.2022 – 31.12.2022, are verified to be 8,375,055,908 gCO_{2,eq}

Cologne, 02.06.2023



Florencia Tamanini, TL and Verifier



Denitsa Gaydarova-Itrib, TR

APPENDIX I

Verification Protocol

based on ISO 14064 Part 2/3, the Council Directive (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC (Fuel quality directive) and the Guidance Note of the Council Directive (EU) 2015/652 on approaches to quantify, verify, validate, monitor and report upstream emission reductions as well as on the Austria's "Kraftstoffverordnung" (KVO).

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
1. Implementation							
1.1 Have all physical features proposed in the validated PD been implemented at the project site?	x	x	x	<p>Yes, the Project activity has been implemented as described in the validated PD and in the two previous verifications (Doc. 6 to 9). The project is the installation of a Gas-2-Power (G2P) plant in order to make use of the previously flare gas and obtain electricity to use on-site. The G2P plant is continuously operating, in grid mode, and part of the obtained electrical energy is "consumed" locally, the difference being injected in the distribution grid operated by the Electrica Transilvania Sud S.A.</p> <p>CL1: The ownership of emission reduction rights have been concluded in an additional agreement between Mazarine Energy and OMV Petrom on 20th August 2019. Please submit the agreement</p>	<p>The main agreement between Mazarine and OMV Petrom, as well as the addendum for prolongation based on the concluded contract per August 2019 have been submitted (Doc. 16 & 17) and verified to be in line with the transfer of ownership described in the MR.</p> <p>CL1 is closed.</p> <p>During FA, the head of energy from Mazarine (plant operator) explained that the G2P plant it's connect to the grid and that only 0.1 MW from the total of 2.2 MW is consumed on site. It was also verified that the physical features are correctly implemented as described in the MR and that the plant is grid</p>	CL1 CL2	OK

Checklist question	MoV				Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA	www				
				www	document. CL2: please clarify the concept of operating in grid mode.	connected. CL2 is closed.		
1.2 Has the project activity been operated in accordance with the project scenario described in the validated PD and relevant guidance?	x	x	x		Yes, the MR indicate that the project activity operates as described in the PD. During FA, it was confirmed that the project has been operated in accordance with the project scenario described in the PD and in the 2020 and 2021 verification reports.		OK	OK
1.3. Does the project activity deviates from the documents underlying the approval/validated PD?	x	x	x		No deviation of the project activity has been observed, i.e. the associated gas is processed and utilized instead of flared. Nevertheless, in order to close CL10 and CAR2 (see below) chapter 5.1 and chapter 4.1 of the MR have been reviewed and a site specific CO2 emission factor has been applied in the calculations. By comparing previous IPCC CO2 standard EF for natural gas (56.10 tCO2/TJ) with actual site specific EF (57.77 tCO2/TJ), it was proven that the impact in the level of UER is a 3%. In the case of this isolated difference, it can be considered an immaterial error because the deviation is below the materiality threshold.		OK	OK

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
1.3.1 If the project activity deviates from the documents underlying the approval, what impact the deviations may have on the level of UER?	X			N/A		OK	OK
1.4 If the project activity is implemented on a number of different locations, has the Monitoring report provided the verifiable starting dates for each site?	X		X	The main relevant project location geographical coordinates that have been verified during FA and through Google Earth are: Latitude – 45°54'41.20" N; Longitude – 26°19'32.10" E.		OK	OK
2. Monitoring methodology							
2.1 Is the monitoring plan established in accordance with the monitoring methodology?	X	X	X	Yes, the monitoring plan was validated by another VVB as part of the project validation process as accurate and in accordance with the principles and standards identified in Council Directive (EU) 2015/652 and ISO 14064-2. The methodological approach of this UER project follows the approach of the approved CDM methodology AM0009 (Version 7.0). In line with this and also the recommendations of the International Council on Clean Transportation (ICCT) During FA and interviews, it was confirmed that the monitoring plan described in section 3.3 of the		OK	OK

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
				MR ensures the appropriate obtaining, recording, compiling, and analysing of all relevant data for quantifying and reporting GHG emissions.			
3. Monitoring plan							
3.1 Is the monitoring established in full compliance with the monitoring plan, contained in the validated PD (or new monitoring plan approved by the applicable standard)				Yes, the monitoring of the UERs for the period 01.01.2022 - 31.12.2022 has been performed in full compliance with the validated monitoring plan. The volume of the total recovered associated gas (FC _v) is continuously metered and the net calorific value (NCV) is measured twice per year (summer/winter). The values for the 2 parameters are aggregated by the system on monthly basis. The 3rd component of the monitoring plan is the Emission Factor of the combusted gas (EF _{CO2}) which is consistent with natural gas properties, therefore a conservative IPCC CO2 standard EF has been applied in previous verifications. During this monitoring period a site specific EFCO2 has been applied in order to comply with the validated monitoring plan.		OK	OK
	x	x	x				
3.2 Are all baseline emission parameters monitored and updated in accordance with monitoring plan,	x	x	x	Yes, all parameters relevant for the estimation of BE have been monitored as per the validated PD,		OK	OK

Checklist question	MoV				Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA	www				
monitoring methodology and relevant CDM EB decisions?					in accordance to the requirements given in the CDM methodology AM0009, v07.0			
3.3 Are all project emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology and relevant CDM EB decisions?	x				The validated PD indicate that the project does not generate any project emissions; Thus PE = 0 tCO ₂ ,eq.		OK	OK
3.4 Are all leakage emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology and relevant CDM EB decisions?	x				The validated PD indicate that as per CDM methodology AM0009, v07.0 the project does not lead to any leakage emissions; Thus LE = 0 tCO ₂ ,eq.		OK	OK
3.4.1 Was the monitoring equipment for baseline-, project- and leakage emission parameters controlled and monitoring results recorded as per approved frequency?	x	x	x		During FA, it was verified that the monitored parameters have been recorded by the controlled monitoring devices, as per the approved procedure and on the validated frequency. CL3: please clarify the reason for conducting gas analysis only in summer and winter.	The procedure and frequency for gas analysis has been validated and established in the agreement between Mazarine and OMV Petrom. CL3 is closed.	CL3	OK

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
3.5 Was the monitoring equipment for baseline-, project- and leakage emission parameters calibrated in accordance with QA&QC procedures described in the validated monitoring plan?	x	x	x	<p>The calibration report has been submitted and positively verified to be valid during this monitoring period. Last calibration took place in 19th August 2020 and according to the equipment manufacturer the next calibration will be conducted in 2024.</p> <p>CL4: please provide accreditation corresponding to SC Elcost Company SRL and manufacturer's document which reflects the four year frequency for calibration.</p>	<p>The description of the metering system, where all components are described as they were installed in the year 2015 (Doc.21) and the document that provides detailed descriptions of the single components of the measuring system (Doc. 22) have been submitted. It was proven that the measuring system was produced by the Bulgarian company ACK Fluid SRL and installed by the Romanian company SC Elcost Company SRL, and that the manufacturer specifications for calibration does not require maintenance of most components, but a 4 year calibration for the pressure transmitter is recommended.</p> <p>CL4 is closed.</p>	CL4	OK
3.6 Were all monitoring parameters available and verifiable through the whole monitoring period?	x		x	<p>All monitoring parameters were available and verifiable through the whole monitoring period. During FA, it was verified that all data relevant for quantifying the GHG emissions are appropriate obtained, recorded and analysed.</p>		OK	OK

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
3.6.1 In case, only partial monitoring data is available and PP(s) provide estimations or assumptions for the rest of data, was it possible to verify those estimations and assumptions?	X			N.A.			
3.7 Was management and operation system established and operated in accordance with the monitoring plan?	X	X	X	<p>The monitoring procedures, as given in the validated PD, have been precisely followed: The associated gas production is measured continuously using a flow meter, the readings from the flowmeter are inserted on a daily basis by the park operator into the logbook and checked and validated using the 4-eye-principles by the Team Leader. All monitoring parameters have been measured and recorded, and the data processed, checked and transferred in the UER calculation files as described in the validated Monitoring plan. During FA and interviews, Mazarine and OMV Petrom personnel demonstrated to clearly know roles and responsibilities for the daily operations following high oil & gas international standards.</p> <p>CL5: please provide evidence of Mazarine's personnel training/competence. CAR1: an error in the UER excel file when comparing with the on-site data was found for the</p>	<p>During FA, it was demonstrated that in Mazarine Energy the 4-eyes-principle for ensuring data quality is applied for production data and energy consumption. The training and competence of the local operators has been shown and positively verified during FA. CL5 is closed.</p> <p>The final UER detailed quantification of emissions (Doc. 20) has been submitted and the running hour's value corresponding to September has been corrected. The error was caused by a typing mistake when transferring raw data to the excel sheet. CAR1 is closed.</p>	<p>CL5 CAR1</p>	OK

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
				parameter "running hours" corresponding to September. Even though this parameter is not relevant for the UERs calculations, please correct and clarify the error in the transfer of data.			
4. Parameters							
4.1 Monitored Parameter 1 <i>Title: Fuel consumption in the monitoring period</i> <i>Indication: FC_y</i> <i>Unit: Nm³</i> <i>Estimated value: 4,135,827 Nm³</i> <i>Measured value: 3,474,835 Nm³ (for the vintage 2022)</i>				Gas consumption from the GZP plant is measured in Nmc and it is the result of readings from New Index and Old Index. Gas volumes are measured continuously every 5 minutes by the flowmeter DFC 06 and uploaded to a flow computer. CL6: please clarify the reference for "new and old index" mentioned in the MR.	It was clarified that old index and new index are the readings at the beginning and end of the month respectively. CL6 is closed.	CL6	OK

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
4.1 Monitored Parameter 2 <i>Title: Average net calorific values of the recovered gas in the monitoring period</i> <u>Indication:</u> NCV _{RG,y} <u>Unit:</u> TJ/Nm ³ <u>Estimated value:</u> 39.83 TJ/Nm ³ <u>Measured value:</u> 41.72 TJ/Nm ³ (average)				<p>The molecular gas composition is determined using Daniel 700 gas chromatograph and a GasVLE software based on the gas equation of state. This is further analysed to determine the calorific value of the gas.</p> <p>CL7: clarify the 96.06% result in winter gas analysis written in the UER calculations for the NCV parameter.</p> <p>CL8: please clarify the difference between the unit described in MR for this parameter and the unit used in the UER calculations, and correct if needed.</p> <p>CL9: please provide gas Laboratory accreditation.</p>	<p>The 96.06% in the winter gas analysis was the result of missing the values for Nitrogen and CO2 from primary source of data to final excel sheet. The values have been included in the upgraded and submitted UER detailed quantification of emissions (Doc. 20). It was proven to be an isolated error.</p> <p>CL7 is closed.</p> <p>It has been clarified that the correct unit is GJ/Nm³. The final MR (Doc. 19) has been submitted and the description for NCV has been properly corrected.</p> <p>CL8 is closed.</p> <p>The accreditation from ICPT Laboratory which is valid until 31.03.2026 has been submitted (Doc. 18).</p> <p>CL9 is closed.</p>	CL7 CL8 CL9	OK

Checklist question	MoV				Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA	www				
<p>4.1 Monitored Parameter 3 <u>Title:</u> <i>Monthly average emission factors of the recovered gas entering the gas export pipeline in the monitoring period</i> <u>Indication:</u> EF_{CO₂,RG,y} <u>Unit:</u> gCO₂/MJ <u>Estimated value:</u> 56.10 tCO₂/TJ <u>Measured value:</u> 57.77 gCO₂/TJ</p>	x	x	x	www	<p>In the MR it's stated that the gas combusted in the G2P plant is consistent with natural gas properties and that currently there is no other more accurate EF factor from gas analyses or from the Romanian EU ETS System available. Therefore, a conservative IPCC CO₂ standard EF for natural gas has been chosen.</p> <p>CL10: please clarify how the application of the IPCC factor will be continuously reviewed by re-assessing a site specific CO₂ emission factor based on gas analyses as stated in validated PD.</p> <p>CAR2: as a result of previous CL10, it was decided that the average of the EF from the results of the gas analysis will be applied, therefore MR and UER calculations must be upgraded.</p>	<p>It was clarified that the correct approach to follow the validated monitoring plan will be to apply the average EF from site specific gas analysis and to include this one as a monitoring parameter.</p> <p>CL10 is closed.</p> <p>The site specific CO₂ emission factor has been applied, the reason for the new approach has been correctly described in chapter 2.2 and verified in the final MR and UER calculations (Doc. 19 & 20).</p> <p>CAR2 is closed.</p>	<p>CL10 CAR2</p>	OK
<p>5. Calculations</p> <p>5.1 Have all the calculations related to the baseline emissions been carried out according to the formula and methods described in the validated PD and applied methodology?</p>	x	x	x		<p>The BE have been calculated on a monthly base as the product of monthly volume, average NCV and EF_{CO₂} of recovered gas. The BE have been quantified as per validated PD and in line with the applied CDM methodology AM0009, v07.0.</p> <p>The UER have been determined as the difference between the BE and the PE&LE. In the case of the project activity: UER = BE - 0 - 0</p>		OK	OK

Checklist question	MoV			Initial Assessment and Comments for Draft Conclusion	Proceeding and Completion for Final Conclusion	Draft conclusion	Final conclusion
	DR	I	FA				
5.2 Have all the calculations related to the project emissions been carried according to the formulae and methods described in the validated PD and applied methodology?	X		www				
5.3 Have all the calculations related to the leakage emissions been carried according to the formulae and methods described in the validated PD and applied methodology?	X						
6. FAR from previous verification							
The project developer shall create and implement and internal procedure & criteria to determine system outliers and threshold of values, so that it is operational for UER to be monitored and generated from 1 Jan 2022	X	X	X	The operation procedure for the data quality assurance and control was shown during FA and it was proven that outliers can be easily detected. CL11: please submit document in English.	Operational procedure in English have been submitted (Doc. 23) and proven to properly addressed the FAR from previous verification. CL11 is closed. FAR from previous verification is closed.	CL11	OK

APPENDIX II

List of correction action requests (CARs) and clarification requests (CLs)

CAR/CL/FAR	Observation	Reference	Summary of project owner response	TÜV comment
CL1	Please submit the additional agreement document between Mazarin Energy and OMV Petrom.	UER G2P-Ghelinta_MR2022_Monitoring report v1	The ownership of emission reduction rights have been concluded in an additional agreement between Mazarine Energy and OMV Petrom on 20th August 2019 which has been submitted upon request.	The main agreement between Mazarine and OMV Petrom, as well as the addendum for prolongation have been submitted (Doc. 16 & 17) and verified to be in line with the transfer of ownership described in the MR. CL1 is closed.
CL2	Please clarify the concept of operating in grid mode.	UER G2P-Ghelinta_MR2022_Monitoring report v1	During FA, the head of energy from Mazarine (plant operator) explained and shown that the G2P plant it's connect to the grid and that only 0.1 MW from the total of 2.2 MW is consumed on site.	It was also verified that the physical features are correctly implemented as described in the MR and that the plant is grid connected. CL2 is closed.
CL3	Please clarify the reason for conducting gas analysis only in summer and winter.	UER G2P-Ghelinta_MR2022_Monitoring report v1	The procedure and frequency for gas analysis has been validated and established in the agreement between Mazarine and OMV Petrom.	The agreed frequency for gas analysis has been proven to be in line with the submitted documents (Doc. 16 & 17). CL3 is closed.

CAR/CL/FAR	Observation	Reference	Summary of project owner response	TÜV comment
CL4	Please provide accreditation corresponding to SC Elcost Company SRL and manufacturer's document which reflects the four year frequency for calibration.	UER G2P-Ghelinta_MR2022_Monitoring report v1	The description of the metering system, where all components are described as they were installed in the year 2015 (Doc.21) and the document that provides detailed descriptions of the single components of the measuring system (Doc. 22) have been submitted.	It was proven that the measuring system was produced by the Bulgarian company ACK Fluid SRL and installed by the Romanian company SC Elcost Company SRL, and that the manufacturer specifications for calibration does not require maintenance of most components, but a 4 year calibration for the pressure transmitter is recommended. During FA, the calibration frequency for the pressure transmitter was proven to be in line with the manufacturer specifications. CL4 is closed.
CL5	Please provide evidence of Mazarine's personnel training/competence.		During FA, it was demonstrated that in Mazarine Energy the 4-eyes-principle for ensuring data quality is applied for production data and energy consumption.	The training and competence of the local operators has been shown and positively verified during FA. CL5 is closed.
CL6	Please clarify the reference for "new and old index" mentioned in the MR.	UER G2P-Ghelinta_MR2022_Monitoring report v1	Old index and new index are the reading of fuel consumption at the beginning and end of each month.	It was clarified that old index and new index are the readings at the beginning and end of the month respectively. CL6 is closed.
CL7	Please clarify the 96.06% result in winter gas analysis written in the UER calculations for the NCV parameter.	UER G2P-Ghelinta_MR2022_Detailed quantification of emissions	The 96.06% in the winter gas analysis was the result of missing the values for Nitrogen and CO2 from primary source of data to final excel sheet.	The values corresponding to N and CO2 have been included in the upgraded and submitted UER detailed quantification of emissions (Doc. 20). It was proven to be an isolated error. CL7 is closed.

CAR/CL/FAR	Observation	Reference	Summary of project owner response	TÜV comment
CL8	Please clarify the difference between the unit described in MR for the NCV parameter and the unit used in the UER calculations, and correct if needed.	UER G2P-Ghelinta_MR2022_Monitoring report v1 & UER G2P-Ghelinta_MR2022_Detailed quantification of emissions	It has been clarified that the correct unit is GJ/Nm ³ .	The final MR (Doc. 19) has been submitted and the description for NCV has been properly corrected. CL8 is closed.
CL9	Please provide gas Laboratory accreditation.		The accreditation has been provided.	The accreditation from ICPT Laboratory which is valid until 31.03.2026 has been submitted (Doc. 18). CL9 is closed.
CL10	Please clarify how the application of the IPCC factor will be continuously reviewed by re-assessing a site specific CO ₂ emission factor based on gas analyses as stated in validated PD for the parameter EF _{CO2}	Antragsformular_UER_V1.1_OMV_G2P-Ghelinta Anhang-Projektdokumentation_v2.1 (PD)	The results of the gas analysis will be applied for the site specific EF.	It was clarified that the correct approach to follow the validated monitoring plan will be to apply the average EF from site specific gas analysis and to include this one as a monitoring parameter. CL10 is closed.
CL11	Please submit the operation procedure for the data quality assurance and control in reference to FAR from previous verification.	2021-05-20-UER-042_OMV Ghelinta_VER01_VR_V01	The operation procedure for the data quality assurance and control was shown during FA and it was proven that outliers can be easily detected.	The operational procedure in English have been submitted (Doc. 23) and proven to properly address the FAR from previous verification. CL11 is closed. FAR from previous verification is closed.

CAR/CL/FAR	Observation	Reference	Summary of project owner response	TÜV comment
CAR1	An error in the UER excel file when comparing with the on-site data was found for the parameter "running hours" corresponding to September. Even though this parameter is not relevant for the UERs calculations, please correct and clarify the error in the transfer of data.	UER G2P-Ghelinta_MR2022_ Detailed quantification of emissions	The running hours value corresponding to September has been corrected in UER excel file version 2	The final UER detailed quantification of emissions (Doc. 20) has been submitted and the running hour's value corresponding to September has been corrected. The error was caused by a typing mistake when transferring raw data to the excel sheet. CAR1 is closed.
CAR2	As a result of previous CL10, it was decided that the average of the EF from the results of the gas analysis will be applied, therefore MR and UER calculations must be upgraded.	UER G2P-Ghelinta_MR2022_ Monitoring report v1 & UER G2P-Ghelinta_MR2022_ Detailed quantification of emissions	The site specific CO2 emission factor has been applied in version 2 of MR and UER calculations.	The site specific CO2 emission factor has been applied, the reason for the new approach has been correctly described in chapter 2.2 and verified in the final MR and UER calculations (Doc. 19 & 20). CAR2 is closed.
FAR from previous verification	The project developer shall create and implement and internal procedure & criteria to determine system outliers and threshold of values, so that it is operational for UER to be monitored and generated from 1 Jan 2022	2021-05-20-UER-042_OMV Ghelinta_VER01_VR_V01	The internal procedure to determine system outliers and threshold of values has been created and implemented.	The operational procedure in English have been submitted (Doc. 23) and proven to properly address the FAR from previous verification. FAR from previous verification is closed.