




Verification and certification report form for GS project activities

VERIFICATION AND CERTIFICATION REPORT

Title of the project activity	ALUMINUM RECYCLING – A SOLUTION FOR CO ₂ EMISSION REDUCTION BY AS METAL, ROMANIA
GS Reference number of the project activity	10878
Version number of the verification and certification report	3.1Aa
Completion date of the verification and certification report	28/11/2024
Monitoring period number and duration of this monitoring period	1 st Monitoring Period covering 01/05/2022 to 13/02/2024 of 5 years renewable Crediting Period 01/05/2022 – 30/04/2027 (both days included) Time of First Submission Date: 02/10/2020 Design Certification Review date: 09/08/2023
Version number of monitoring report to which this report applies	Version 2.2 of 04/11/2024
Crediting period of the project activity corresponding to this monitoring period	01/05/2022 – 30/04/2027 (both days included)
Project participant(s)	AS Metal Com SRL (Private Entity, Project Owner)
Host Party	Romania
Sectoral scope(s), selected methodology(ies)	Sectoral Scope 13. Waste Handling and Disposal Methodology: AMS-III.AJ. Recovery and recycling of materials from solid wastes, version 9.0
Estimated GHG emission reductions or net anthropogenic GHG removals for this monitoring period in the registered PDD	56,282 tCO ₂ (SDG 13) – annual 108,777 (SDG 13) – 1 st Monitoring Period covering 01/05/2022 to 13/02/2024 (both days included)
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	108,777 tCO ₂ (SDG 13) – 1 st Monitoring Period covering 01/05/2022 to 13/02/2024 (both days included)
Name of VVB	RINA Services S.p.A. (RINA)
Name, position and signature of the approver of the verification and certification report	 Laura Severino (Authorized officer signing for the VVB) - Decarb & Chain of Custody Product Management

SECTION A. Executive summary

Purpose and general description of the project

RINA Services S.p.A. (RINA) has been contracted by AS Metal Com SRL to undertake the first verification of the registered GS project activity titled "Aluminum Recycling – a solution for CO₂ emission reduction by AS METAL, Romania" (hereinafter called "the project activity") (GS ID: 10878). The objectives of this verification are to verify and certify emission reductions reported for project activity for the monitoring period of 01/05/2022 to 13/02/2024 (first and last day included); and to verify that the data reported are complete and transparent.

The scope of the RINA GS verification includes independent assessment of the project against GS Verification requirements. This report summarizes the findings of the verification of the project, performed based on GS requirements as well as criteria given to provide for consistent project operations, monitoring and reporting. The verification team has, based on the recommendations in the GS Principles and Requirements v1.2 /7/, GS safeguarding Principles & requirements v1.2 /9 /and GHG emissions reductions & sequestration product requirements v2.2 /8/ as well as employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generations of GS-VERs. The verification team has confirmed that applicable version of methodology (AMS.III.AJ version 9.0) /11/ was valid at the time of registration of the project under GS. RINA has employed a risk-based approach in the verification based on the recommendations in the requirements focusing on validity of applied methodology, baseline, actual monitoring plan and actual emission reduction calculations as documented in the PDD v4.0 /1/ and Validation Report, ver. 2.0 /2/ (hereinafter referred to as PDD respectively). The Team also followed in instruction for Site visit and remote audit requirements /10/. The verification is not meant to provide any consulting towards the client. However, the stated requests for clarifications and/or corrective actions may provide input for improvement of the project design. This report summarizes the findings of the verification of the project, performed based on GS requirements as well as criteria given to provide for consistent project operations, monitoring and reporting.

The GHG benefit of the project activity was only accounted under Gold Standard. There are not any other carbon credits such as VERRA, GSS, or Social Carbon were being issued for the project activity /16,17/. Furthermore, as a host country in Romania such any programme like a government-regulated system or programme for the constraint and monetisation of GHG emissions (such as emissions trading scheme, cap and trade or carbon tax mechanisms) has not been implemented.

The purpose of project activity is the recycling of aluminum metal waste and to transform this waste into secondary raw materials ready to be reintroduced into the industrial circuit. The secondary aluminum raw materials put on the market by AS METAL correspond to the requirements of the European Industrial Standards (Recyclable materials EN 13920 1-16:2003 Aluminum and aluminum alloys. Scrap.); the American Standards INSTITUTE OF SCRAP RECYCLING INDUSTRIES INC, as well as to the Directives and the European Environmental Regulations (Regulation 333/2011 establishing the conditions under which certain aluminum and iron wastes are no longer considered as waste). The technologies used by AS METAL COM SRL allow us to recover and separate metal waste with a fraction mass mainly of aluminum resulting from the processing of secondary aluminum raw materials and other ferrous and non-ferrous metal substances which in turn are put on the market in accordance with the industry standards that govern them. Our technological processes guarantee a high recovery efficiency not only through the reported quantities but especially through their quality. The output capacity of the aluminum recycling plant is given by the types of processed waste and is between 49,000 up to 77,500 tons/year. The project activity is located on the industrial platform of AS METAL of 35,000 sqm. in the southern part of Bucharest, capital of Romania. The main goal of the project is the reduction of CO₂ emissions through aluminum recycling, displacing the primary aluminum production from raw materials (mined minerals, bauxite). In the case of primary aluminum production from raw materials, the process has a much greater consumption of energy and therefore a much higher environmental impact regarding CO₂ emissions. The activity of the project is a model for other similar aluminum recycling facilities in Romania and Eastern Europe, which deliver sustainable development. Furthermore, the project is in line with specific UN requirements and with the European circular economy (aimed at eliminating waste and the continual use of resources) directives.

Location

The project is located at South-Eastern of ROMANIA, Bucharest city, Sos. Berceni 104 G, district 4. GEO coordinates: Lat. 44.3550278 and Long. 26.14575, verified on-site during the audit.

Scope of verification

Verification is the periodic independent review and ex-post determination by a VVB of the monitored reductions in GHG emissions that have occurred as a result of the registered GS project activity during a

defined monitoring period. Certification is the written assurance by a VVB that, during a specific period in time, a project activity achieved the emission reductions as verified. The objective of this verification is to verify and certify emission reductions reported for the “Aluminum Recycling – a solution for CO₂ emission reduction by AS METAL, Romania” for the period 01/05/2022 – 13/02/2024.

The scope of the verification is to verify that:

- The project activity has been implemented and operated in accordance with the registered PDD;
- The monitoring plan, including compliance with any guidance provided by the GS4GG regarding deviations from the provisions of a registered plan and/or methodology;
- The data and calculation of GHG emission reductions have been assessed to correctly support the emission reductions being claimed.

The verification shall ensure that reported emission reductions are complete and accurate in order to be certified.

Verification process

Verification is conducted using RINA procedures in line with the GS requirements and requirements specified in the CDM Validation and Verification Standard available at the time of the verification starts and applying standard auditing techniques. RINA assesses and determines that the implementation and operation of the project activity, and steps taken to report emission reductions comply with the GS criteria. The verification assessment involved a document review of relevant documentation and the on-site visit.

Verification is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

Conclusion

RINA commissioned by AS Metal Com SRL has performed the verification of the emission reductions reported for the project activity “ALUMINUM RECYCLING – A SOLUTION FOR CO₂ EMISSION REDUCTION BY AS METAL, ROMANIA”, GS Registration Reference No. 10878 for the monitoring period 01/05/2022 to 13/02/2024, with regard to the relevant GS requirements and principles for project activities. The project was validated by EPIC Sustainability Services Private Limited /2/.

The GHG emission reductions are calculated on the basis of the approved methodology AMS-III.AJ. Recovery and recycling of materials from solid wastes, version 9.0 /11/ and the monitoring plan included in the registered PDD version 04 of 11/10/2023 /1/. In our opinion the GHG emission reductions reported for the project in the Monitoring Report, version 2.2 of 04/11/2024 /3/ are fairly stated.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader, Verifier, Technical Expert TA 13 and GS competent auditor	IR	RACHEV	Konstantin	RINA Bulgaria	✓	✓	✓	✓
2	Technical Expert	EX	MILKOV	Viktor	Bulgaria	✓	✓	✓	✓
3	Local Expert	EX	Raztomescu	Razvan	Romania	✓	✓	✓	✓

B.1.1. Previous Audit (Validation team member)

The validation phase was conducted by VVB “EPIC Sustainability Services Private Limited” (EPIC) /2/.

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical reviewer	IR	AMALORPAVANATHAN	Cyril	RINA India
2	Approver	IR	Severino	Laura	RINA Italy

B.2.1. Previous Audit (Technical reviewer and approver of the validation report)

The validation phase was conducted by VVB “EPIC Sustainability Services Private Limited” (EPIC) /2/.

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human error in the quantification of emissions (which may be more likely to occur if personnel are unfamiliar with, or not well trained regarding, emissions processes or data recording).	Low	Being the 1 st verification of the 5 years renewable crediting period, the project proponent is familiar with all monitoring procedures and data reporting is in line with the registered PDD. Company uses an ERP software for all documents, as well as it is certified against ISO 9001, 14001 and 45001 /6/. All used monitoring equipment are being calibrated. Hence, the risk	During the site visit, the verification team will interview the staffs of the GS team and local stakeholders and check all records to confirm whether the monitoring plan has been well implemented. The major parameters used for determining the project's baseline and

			level is low.	
2.	Undue reliance on a poorly designed information system, which may have few effective quality controls.	Low	Being the 1 st verification of the 5 years renewable crediting period, the project proponent has already established a well-organized monitoring team, monitoring plan, including data collection procedure and QA/QC procedure consistent with registered monitoring plan. Monitoring equipment are calibrated at defined frequency. Hence, the risk level is low.	project emissions are the measurement of aluminum waste collected, aluminum material recycled, electricity and fuel consumption according to the monitoring plan is recorded monthly. The team will review the whole data set of the monthly report and crosschecked against invoice raised. The verification team will check the relevant records to confirm whether the data collection procedure and QA/QC procedure have been well implemented. The verification team has accessed all data sources, assumptions and calculations to verify that they are correct and applicable to the project. The verification team will interview the stakeholders to assess there are no negative comments. In this way, this risk is mitigated by the verification team.
3.	Manual adjustment of otherwise automatically recorded activity levels.	Low	As detailed in section C.2 below, the data of the main monitoring parameters are taken from calibrated meters (energy meter) and can be verified from totalizer values. The monitoring equipment's are calibrated according to national standards and rules. Hence, the risk level is low.	

C.2. Consideration of materiality in conducting the verification

The project activity happens at a single site, that recycling aluminum waste, reducing energy consumption that would otherwise be required for the production of aluminum products made of virgin inputs, and consequently reducing greenhouse gases emissions (GHGs). Plant is monitored and recorded using calibrated energy meter and 100% data is available for verification. No significant reporting risks to the materiality of the verification were envisaged while planning for the verification and were not identified during the verification process. During the course of the verification, the team reviewed the whole data set of monthly records for net electricity /29/, natural gas /31/ and diesel consumption /30/ and cross-checked with monthly meter records /24,25,26,27,28/. The data reported in the monitoring report are consistent with the monthly records, and the emission reductions are correctly calculated.

The data which directly affect emission reduction calculations being electricity, diesel and Natural gas consumption, Municipal solid waste and quantity of aluminium measurements, are monitored and measured by calibrated electricity meters, 100% verifiable /23,29,30,31/, for diesel verified next documents /5,23,24,30,33/; for Natural Gas verified /5,23,24,26,31,33/ and for Municipal solid waste and quantity of aluminium measurements, verified /13,14,23,24,27,28,33/. Hence, in line with paragraph 329 and section 9.1.2.3.1 of the CDM Validation and Verification standard /32/ no significant reporting risks to the materiality of the verification were envisaged while planning for the verification and were not identified during the verification process. During the course of the verification, the team reviewed the whole data set of monthly records and cross-checked with monthly meter records. The data reported in the monitoring report are consistent with the monthly records, and the emission reductions are correctly calculated. In conclusion, the verification team confirms the data set to be free from material error.

SECTION D. Means of verification

D.1. Desk review

The Monitoring Report Version 01 of 25/03/2024, ver. 02 of 29/04/2024, ver. 2.1 of 03/09/2024 and ver. 2.2 of 04/11/2024 /3/, the emission reduction calculations and SDG indicators, provided in the form of a spreadsheet /4,5/, the approved baseline and Monitoring Methodology AMS-III.AJ. Recovery and recycling of materials from solid wastes /11/ and all the documentation provided to support the monitoring period /1 – 35/, was assessed as part of the verification. In addition, the Project Design Document (PDD) version 04 of

11/10/2023 /1/, in particular as regards the baseline estimations and the monitoring plan and the Validation Report /2/ for the project, were reviewed. The list of all documents reviewed are referenced during the verification is available in Appendix 3 below.

D.2. On-site inspection / Site visit

Duration of site visit: 11-12/04/2024				
No.	Activity performed on-site	Site location	Date	Team member
1.	Implementation and operation of the proposed project activity. Checked the monitoring equipment, interviewed key personnel of the plant to confirm the operational and data collection procedures, cross-checked between information provided in the monitoring report and data plant	City of Bucharest, Romania.	11/04/2024	Konstantin Rachev Viktor Milkov Razvan Tomescu
2.	Reviewed the information flows for generating, aggregating and reporting the monitoring parameters	City of Bucharest, Romania.	11/04/2024	Konstantin Rachev Viktor Milkov Razvan Tomescu
3.	Checked calibration performance, reviewed calculations and assumptions made in determining the GHG data and emission reductions	City of Bucharest, Romania.	11/04/2024	Konstantin Rachev Viktor Milkov Razvan Tomescu
4.	Checked the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters	City of Bucharest, Romania.	11/04/2024	Konstantin Rachev Viktor Milkov Razvan Tomescu
5.	Cross-checked between information provided in the monitoring report and data evidence, including the Gold Standard parameters	City of Bucharest, Romania.	11/04/2024	Konstantin Rachev Viktor Milkov Razvan Tomescu
6.	Interview with the local stakeholder - National Environmental Protection Agency and Politehnica University of Bucharest, Faculty of Materials Science and Engineering	City of Bucharest, Romania.	12/04/2024	Konstantin Rachev Viktor Milkov Razvan Tomescu

D.3. Interviews

No.	Interviewee				Date	Subject	Team member
	Last name	First name	Gender	Affiliation			
1.	APOSTOL	Constantin	Male	CEO of AS METAL	11/04/2024	<ul style="list-style-type: none"> • Implementation status of the project • Monitoring equipment and operation • SDGs quantities • Monitoring of Gold Standard Parameters • Local Employees • Benefit of the project to the City and Romania • Local Employment and trainings • Grievance/ Input Mechanism 	Konstantin Rachev Viktor Milkov Razvan Tomescu
2.	BADILA	Rodica	Female	Technical Director of AS METAL			
3.	DINCA	Adriana	Female	Metallurgy Engineer of AS METAL			
4.	JURCA	Mihnea	Male	Consultant of AS METAL			
5.	POPESCU	Liliana	Female	Quality Specialist of AS METAL			
6.	BALAN	Larisa	Female	Sustainability Responsible of AS METAL.			
7.	BUD	Florin	Male	Production Director of AS METAL			
8.	FOMETESCU	Casiana	Female	Project			

				Consultant from Carbon Expert International			
9.	JANPOLAT	Abdulkadel	Male	Metallurgy Engineer of AS METAL			
10.	CIORIC	Vasilica	Female	Economist of AS METAL			
11.	PUCHIANU	Cristina –	Female	Economist of AS METAL			
12.	RADU	Cristina -	Female	CFO			
13.	Mihaela	Olaru	Female	National Environmental Protection Agency (NEPA)	12/04/2024	Stakeholder`s attitude of the implemented project activity. Complains.	
14	Petroaica	Brinuosa	Female	National Environmental Protection Agency (NEPA)			
15.	Prof. Dr. Eng. Stefanoiu	Radu	Male	Politehnica University of Bucharest, Faculty of Materials Science and Engineering			

A site visit was conducted on 11th and 12th of April 2024 at the company premises in Bucharest City. The project employees were interviewed about the implementation status of the project, monitoring equipment and operation, electricity, natural gas and fuel consumption, as well as every sustainable parameter. The technical staff as well as other staff have been interviewed for using the ERP system, the way of entering data and its archiving /list of interviewees are pointed in Table D.3 of this Report/. All trading papers are also scanned and archived, verified during the on-site visit. All data have been available on-site for verification. The verification team reviewed the on-site project installations as well as all monitoring data for that monitoring period. On 12th of April 2024, the team also held a meeting with the competent authority - National Environmental Protection Agency /Table D.3/ as well as a meeting with Prof. Dr. Eng. Stefanoiu from Politehnica University of Bucharest, Faculty of Materials Science and Engineering /Table D.3/. On site, both officials from National Environmental Protection Agency, confirmed a very good cooperation with AS METAL, and that everyone is very satisfied with the project, which contributes to the protection of the environment and the implementation of new technologies. For this period, there were no complaints received and no penalties imposed, as well as pollution of the permissible limit values /14/. The National Environmental Protection Agency monitors environmental components every year /15/. The stakeholders confirmed that the project activity offers employment for the locals. They also stated that the project has no negative effect and stakeholders have no complaints about the project activity. From grievance mechanisms also no comments have been received /15/. Feedback can be also provided online /36/:

During interviews, it is asked to the stakeholders and project employees if any legal contests or disputes have arisen during the monitoring period, and they confirm that there is no legal contest or disputes have arisen.

On 12th of April 2024, the team also held a meeting with Prof. Dr. Eng. Stefanoiu, from Politehnica University of Bucharest, Faculty of Materials Science and Engineering. He firmly confirmed that the project uses modern quality technologies, and all applicable national and international standards are followed in the project. The project owner is in continuous contact with the university regarding the implementation and continuous improvement of the applicable technologies. The company is used to implement new technologies as well as train students. The University support all projects that helps to CO₂ reduction.

D.4. Sampling approach

Not applicable.

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CR	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form			
Compliance of the project implementation with the registered PDD			
Post-registration changes			
Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline			
Compliance of monitoring activities with the registered monitoring plan			
Compliance with the calibration frequency requirements for measuring instruments			
Assessment of data and calculation of emission reductions or net removals	CAR 1, 2, 3		
Assessment of the sustainability parameters			
Total	3		

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The monitoring report latest version /3/ and previous versions submitted by the PP have been the basis for starting the verification process. RINA confirms that the Monitoring report is based on the currently valid GS4GG MR template /12/.
Findings	NA
Conclusion	RINA verified that the monitoring report was completed in accordance with the GS4GG-MR-FORM - Monitoring report form, including its Attachment /12/.

E.2. Remaining forward action requests from validation and/or previous verification

Based on the review of the Gold Standard Foundation and Validation Report /2/, no FARs were raised during the previous steps.

E.3. Compliance of the project implementation with the registered project design document

Means of verification	<p>The Monitoring Report for the project activity “Aluminum Recycling – a solution for CO₂ emission reduction by AS METAL, Romania”, /3/ submitted by the AS Metal Com SRL have been the basis for the verification process.</p> <p>It was verified during the site visit that the proposed project activity has been implemented and it is in operation in accordance with the project activity described in the registered PDD /1/.</p> <p>The verification team has reviewed the technical specifications of major equipment; the records that affected the operation of the installations and accepted the same; technical specifications of major equipment are matching with that of PDD. The verification team has confirmed the correctness and accuracy of site location, project design, envisaged installed capacities of the major equipment, processes, power requirements of the project activity. The verification team has reviewed the commissioning and environmental certificates etc.</p>
Findings	NA
Conclusion	RINA confirms that the above MR is based on the currently valid MR template /12/ and is completed in accordance with the applicable guidance document /11/. Based on the site visit and checking the above documents, RINA confirms that the project activity has been implemented and it is in operation as described above in accordance with the project activity in the registered PDD /1/.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline

Not applicable.

E.4.2. Corrections

Not applicable.

E.4.3. Changes to the start date of the crediting period

Not applicable.

E.4.4. Inclusion of a monitoring plan to a registered project activity

Not applicable.

E.4.5. Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline

Not applicable.

E.4.6. Changes to the project design of a registered project activity

Not applicable.

E.4.7. Types of changes specific to afforestation and reforestation project activities

Not applicable.

E.5. Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline

Means of verification	The project applies the approved Methodology AMS-III.AJ. Recovery and recycling of materials from solid wastes version 9.0, SS 13. Waste Handling and Disposal /11/.
Findings	NA
Conclusion	The monitoring plan in the registered PDD /1/ is in accordance with the monitoring methodology AMS-III.AJ. Recovery and recycling of materials from solid wastes version 9.0. The verification team was able to confirm that the monitoring plan contained in the PDD /01/ is in accordance with the approved methodology applied by the project activity and its applicable tools. The monitoring plan of the project is in accordance with the applied methodology. All parameters stated in the monitoring plan and the applied methodology has been fulfilled in the current monitoring period. All parameters used for emission reductions calculation have been verified and found satisfactory. The discussion regarding each parameter has been elaborated in the further sections of this report. The monitoring plan as mentioned in the PDD /01/ is in accordance with the applied methodology /11/. The monitoring approach for each parameter described in the PDD was found consistent in terms of unit, measurement procedures and monitoring frequency. The verification team has reviewed the line diagram and monitoring parameters mentioned in the MR are in line with the PDD /1/.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The parameters were available at the validation stage, which do not need to monitor during the crediting period, as per the registered PDD:			
	DATA/ PARAMETER	Source of data	Reported value for the project period	Assessment/ Observation

	SEi Specific CO2e emission factor for production of aluminum in tCO2/t	Baseline and monitoring methodology “ AMS-III.AJ. /11/	8.4	The verification team does accept and verified that the used data are fix ex-ate in the PDD, validation report and current MR /1,2,3/.
	Bi Correction factor based on share of production	Baseline and monitoring methodology “ AMS-III.AJ. /11/	0.72	
	Density of diesel in Kg/liter	IPCC 2006	0.832	
	NCVdiesel Net calorific value of the fossil fuel consumed in the recycling facility in year in TJ/Gg	IPCC 2006	43.3	
Findings	NA			
Conclusion	Data and parameters fixed ex-ante are in accordance with the registered PDD /1/.			

E.6.2. Data and parameters monitored.

Means of verification	<p>The following parameters are monitored in accordance with the registered PDD /1/ and MR /3/.</p> <p>SDG 4 Quality Education Number of employees provided skill development training (PDD value of 64): 01/05/2022 – 31/12/2022 – Topic: “Knowledge of negative environmental impact”, verified Training sheet of 04/07/22 with 64 participants. In addition to this training, the company has another 10 types of trainings /18,23/. 01/01/2023 – 31/12/2023 – Topic: “Consumption statistics”, verified Training sheet of 07/06/23, with 64 participants. In addition to this training, the company has another 12 types of trainings /18,23/. 01/01/2024 – 13/02/2024 – Topic: “Sustainability Report”, verified Training sheet of 05/02/24, with 25 participants and Topic: “ISO training covering 9001, 14001, 45001, as per Participation sheet of 22/01/24, with 51 participants /18,23/.</p> <p>SDG 5 Gender Equality Number of women serving in managerial/ leadership/ownership role (PDD value of 3) 01/05/2022 – 31/12/2022 – 3, verified in ERP HR module – list of employees and official HR statement for 2022 /19,23/. 01/01/2023 – 31/12/2023 – 3, verified in ERP HR module – list of employees and official HR statement for 2023 /19,23/. 01/01/2024 – 13/02/2024 – 3, verified in ERP HR module – list of employees and official HR statement for 2024 /19,23/.</p> <p>Proportion of women in managerial positions (PDD value of 50%) 01/05/2022 – 31/12/2022 – 60%, verified ERP HR module – list of employees and official HR statement for 2022 /19,23/. 01/01/2023 – 31/12/2023 – 60%, verified ERP HR module – list of employees and official HR statement for 2023 /19,23/. 01/01/2024 – 13/02/2024 - 60%, verified ERP HR module – list of employees and official HR statement for 2024 /19,23/.</p> <p>SDG 7 Affordable and Clean Energy</p>
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Monitoring Parameter No4**Total energy saving (PDD value of 129,432 MWh/year)**

The saving is calculated as a difference between the baseline primary aluminium production energy consumption as per AMS-III.AJ and the total energy consumed by the project for the production of secondary aluminium.

01/05/2022 – 31/12/2022 – 101,714, the records are confirmed through the verification of parameters 8,9,10 & 11 /23,29,30,31,33/.

01/01/2023 – 31/12/2023 – 131,264, the records are verified by verification of parameters 8,9,10 & 11 /23,29,30,31,33/.

01/01/2024 – 13/02/2024 – 17,109, the records are verified by verification of parameters 8,9,10 & 11 /23,29,30,31,33/.

SDG 8 Decent work and economic growth**Total number of jobs (PDD value of 64):**

01/05/2022 – 31/12/2022 – 64, verified ERP HR module – list of employees and official HR statement for 2022 /19,23/.

01/01/2023 – 31/12/2023 – 64, verified ERP HR module – list of employees and official HR statement for 2023 /19,23/.

01/01/2024 – 13/02/2024 – 64, verified ERP HR module – list of employees and official HR statement for 2024 /19,23/.

SDG 13 Climate Action**Emission reduction per year (PDD value of 56,282 tCO₂)**

01/05/2022 – 31/12/2022 – 44,289 tCO₂, verified in MR for this period, ER excel files as well as the above evidence and monthly Invoices /4,5,13,14,23,29,30,31,33,34,35/

01/01/2023 – 31/12/2023 – 57,053 tCO₂, verified in MR for this period, ER excel files as well as the above evidence and monthly Invoices /4,5,13,14,23,29,30,31,33,34,35/

01/01/2024 – 13/02/2024 – 7,435 tCO₂, verified in MR for this period, ER excel files as well as the above evidence and monthly Invoices /4,5,13,14,23,29,30,31,33,34,35/

Monitoring Parameter No 7**EC_{i,y} = Electricity consumption of the recycling facility (PDD value of 589.114 MWh)**

01/05/2022 – 31/12/2022 – 481.745, verified by monthly protocols for electric energy consumed by the project. Protocols had been signed every month by AS Metal and the utility company supplier of electric energy /23,29/.

01/01/2023 – 31/12/2023 – 316.643, verified by monthly protocols for electric energy consumed by the project. Protocols had been signed every month by AS Metal and the utility company supplier of electric energy /23,29/.

01/01/2024 – 13/02/2024 – 32.168, verified by monthly protocols for electric energy consumed by the project. Protocols had been signed every month by AS Metal and the utility company supplier of electric energy /23,29/.

Monitoring Parameter No 8**Municipal solid waste (PDD value of 12,016 tones/year)**

01/05/2022 – 31/12/2022 – 6,764.43 tones /23,39,41,42/.

01/01/2023 – 31/12/2023 – 11,111.13 tones /23/.

01/01/2024 – 13/02/2024 – 1,394.76 tones /23/.

All documents are kept on paper, scanned and uploaded in the ERP system, verified during the on-site visit. During the on-site visit it was made an extract into the excel and verified all figures.

All delivery companies are Environmental licensed companies. They sign an early contract with AS Metal – verified General Contract of 03/01/2022, 16/01/2023 and 10/01/2024 /37/.

For every delivery next documents are collected and verified: type of waste; quantity of the delivery company; quantity measured on AS METAL weigh – bridge scale (it is Invoiced this amount); waste quality (taken certificates and taken samples on-site – verified with Metallurgy Engineer of AS METAL – number 9 of

D.3 table, as well as applicable ISO standards and EN); Legal Requirement Sheet covered the waste information; incoming radioactive test.

After verifying all delivery documents a Material Reception Report is made by AS METAL. A reduction of quantities of water, oil, paint, etc. is being introduced.

Finally a Reception Report to the client has been issued. In it the net quantity is pointed and Invoiced and this net quantity is entered in the ERP System.

Monitoring Parameter No 9

Quantity of metal type i (Aluminium) recycled in year y (PDD value of 9,370 tones/year)

01/05/2022 – 31/12/2022 – 7,373.83 tones /23, 39,41,42/

01/01/2023 – 31/12/2023 – 9,479.85 tones /23/

01/01/2024 – 13/02/2024 – 1,235.74 tones /23/

The process is described above. From all the waste received, only aluminium is separated, which is measured at calibrated scale on-site (please refer to E.7).

Monitoring Parameter No 10

Diesel consumption of the recycling facility (PDD value of 644.494 MWh)

01/05/2022 – 31/12/2022 – 369.677 MWh and 31.472 tones - verified in MR for this period, ER excel files as well as the above evidence and monthly Invoices /4,5,13,14,23,30/

01/01/2023 – 31/12/2023 – 459.289 MWh and 39.101 tones - verified in MR for this period, ER excel files as well as the above evidence and monthly Invoices /4,5,13,14,23,30/

01/01/2024 – 13/02/2024 – 59.347 MWh and 5.052 tones - verified in MR for this period, ER excel files as well as the above evidence and monthly Invoices /4,5,13,14,23,30/

Monitoring Parameter No 11

Natural gas consumption of the recycling facility (PDD value of 233.712 MWh)

01/05/2022 – 31/12/2022 – 445.97, verified by monthly invoices for natural gas consumed by the project. Invoices had been issued every month by the utility company supplier of natural gas /4,5,13,14,23,31/.

01/01/2023 – 31/12/2023 – 392.718, verified by monthly invoices for natural gas consumed by the project. Invoices had been issued every month by the utility company supplier of natural gas /4,5,13,14,23,31/.

01/01/2024 – 13/02/2024 – 62.452, verified by monthly invoices for natural gas consumed by the project. Invoices had been issued every month by the utility company supplier of natural gas /4,5,13,14,23,31/.

***EFel* - CO2 emissions factor for energy consumption in the production of aluminum recycled in tCO2/MWh (PDD value of 0.213)**

01/05/2022 – 31/12/2022 – 0.22325, verified ANRE Report /20,23/.

01/01/2023 – 31/12/2023 – 0.22325, verified ANRE Report /20,23/.

01/01/2024 – 13/02/2024 – 0.22325, verified ANRE Report /20,23/.

***EFnatural gas* - CO2 emissions factor for natural gas consumption in the production of aluminum recycled in tCO2/MWh (PDD value of 0.389)**

01/05/2022 – 31/12/2022 – 0.202, verified IPPC Report /21,23/.

01/01/2023 – 31/12/2023 – 0.202, verified IPPC Report /21,23/.

01/01/2024 – 13/02/2024 – 0.202, verified IPPC Report /21,23/.

***EFFF, diesel* - CO2 emissions factor for diesel consumption in the production of aluminum recycled in tCO2/TJ (PDD value of 73.56)**

01/05/2022 – 31/12/2022 – 73.56, verified PDD /1,23/.

01/01/2023 – 31/12/2023 – 73.56, verified PDD /1,23/.

01/01/2024 – 13/02/2024 – 73.56, verified PDD /1,23/.

Safeguard Principles

Number of accidents and incidents (PDD value of 1)

01/05/2022 – 31/12/2022 – 1, verified on-site in Safety Report /22,23/.

01/01/2023 – 31/12/2023 – 0, verified on-site in Safety Report /22,23/.

01/01/2024 – 13/02/2024 – 0, verified on-site in Safety Report /22,23/.

	<p>SDG 13 Climate Action</p> <p>TDL_{j, y} - Average technical transmission and distribution losses for providing electricity to source <i>j</i>, <i>k</i> or <i>l</i> in year <i>y</i> – value applied 6.703 /38/</p> <p>The above monitoring parameters have been monitored in accordance with the monitoring plan in the registered PDD /1/ and the Monitoring Report /3/. Details of verified data are provided by the PP via different spreadsheets, official sheets, used ERP software, verified all figures on-site /18-23/.</p>
Findings	<p>CAR 1 CAR 2 CAR 3 All CARs have been closed in Final Verification Report (Appendix 4).</p>
Conclusion	<p>RINA's opinion that the monitoring of the project activity has been carried out in accordance with the monitoring plan in the registered PDD /1/ and MR /3/.</p>

E.6.3. Implementation of sampling plan

Means of verification	N/A
Findings	N/A
Conclusion	N/A

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	<p>The weighing system for weighing input and output streams as well as net quantities of aluminium is calibrated each year by the Romanian Bureau of Legal Metrology /24/, according to its own procedure. Also, during the on-site visit on the used weight – bridge there were available sticker for periodic calibration for the current MP, as well as official Calibration Protocols /27,28/.</p> <p>The recycling plant checks completeness of invoices concerning electricity, natural gas and diesel consumptions /29/, /30/, /31/. The recycling plant checks at least monthly if consumption fit to the produced quantities. The project proponent also checks continuously the amount of incoming and produced waste.</p> <p>The electric meters are property of the utility company supplying the plant with electric energy and it takes care for the periodical calibration as per the Romanian law /24/, of every 15 years, /25/.</p> <p>The commercial natural gas meter is property of the gas company, and it takes care for the periodical calibration as per the Romanian law /24/, of every 8 years /26/.</p>
Findings	NA
Conclusion	RINA's opinion is that the monitoring of the project activity has been carried out in accordance with the monitoring plan in the registered PDD /1/.

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	<p>According to the applied methodology AMS.III.AJ_version 09.0, the calculation of the baseline emissions is according to the following equation:</p> $BE_{metal,y} = \sum Q_{i,y} \times B_i \times SE_i$ <p>Where:</p> <p>$BE_{metal,y}$ = Baseline emissions for metals recycling in year <i>y</i> (tCO₂/year) <i>i</i>= Metal type <i>i</i> (<i>i</i>= Aluminum)</p>
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	<p>$Q_{i,y}$ = Quantity of metal type i (Steel or Aluminum) recycled and sent to a processing or manufacturing facility in year y (t/y)</p> <p>SE_i = Specific CO₂e emission factor for production of metal i (tCO₂/t), take value specified in Table 4 from the methodology (page 14)</p> <p>The baseline emissions for the current monitoring period are presented in the excel file <i>SDG13_ER_Calculation_AS_Metal_monitoring_period_01.05.2022-13.02.2024_04.11.2024 /4/</i> that is part of the monitoring report.</p> <p>Project specific results are documented in E.8.4.</p>
Findings	N/A
Conclusion	RINA verified that the baseline emissions were calculated in accordance with the registered PDD and Methodology /11/.

E.8.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	<p>Project emissions for the monitoring report are calculated using the following equation:</p> $PE_y = EC_{PJ,y} \times EF_{el,PJ,y} + \sum (FC_{f,PJ,y} \times NCV_{f,y} \times EF_{f,CO_2,y})$ <p>Where:</p> <p>PE_y = Project emissions in year y (t CO₂/y)</p> <p>i = Material type – plastics (HDPE, LDPE, PET and PP), container glass cullet, Aluminum or steel;</p> <p>Q_i = Quantity of material type recycled in year y (t/y);</p> <p>$EC_{PJ,y}$ = Electricity consumed by the recycling facility in the year y (MWh);</p> <p>$FC_{f,PJ,y}$ = Fuel type f consumed by recycling facility in the year y (unit mass or volume);</p> <p>$NCV_{f,y}$ = Net calorific value of the fossil fuel consumed in the recycling facility in year y (GJ/unit mass or volume);</p> <p>EF_{f,CO_2} = CO₂ emission factor of the fossil fuel consumed at the recycling facility (tCO₂/GJ) in year y.</p> <p>The project emissions for the current monitoring period are presented in the excel file <i>SDG13_ER_Calculation_AS_Metal_monitoring_period_01.05.2022-13.02.2024_04.11.2024 /4/</i> that is part of the monitoring report.</p> <p>Project specific results are documented in E.8.4.</p>
Findings	N/A
Conclusion	RINA verified that the project emissions were calculated in accordance with the registered PDD /1/ and Methodology /11/.

E.8.3. Calculation of leakage GHG emissions

Means of verification	The leakage emissions are assumed to be zero as per the used Methodology /11/ as defined in the registered PDD /1/. Since the project and leakage emissions are zero, the emission reduction equals to baseline emissions.
Findings	N/A
Conclusion	Leakage was considered as zero in accordance with the applied methodology /11/.

E.8.4. Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	<p>Since the leakage emissions are deemed 0, the emission reductions achieved by the project activity will be the difference between the baseline emissions and the project emissions.</p> $ER_y = BE_y - PE_y$ <p>Where:</p> <p>ER_y: Emission reductions in year y (tCO₂)</p> <p>BE_y: Baseline emissions in year y (tCO₂)</p>
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	<p>PE_y: Project emissions in year y (tCO₂)</p> <p>The emission reductions for the current monitoring period are presented in the excel file SDG13_ER Calculation_AS Metal_monitoring period 01.05.2022-13.02.2024_04.11.2024 /4/ that is part of the monitoring report.</p> <table border="1"> <thead> <tr> <th>GHG Emission Reductions or Removals</th> <th>01/05/2022 – 31/12/2022 tCO₂e</th> <th>01/01/2023 – 31/12/2023 tCO₂e</th> <th>01/01/2024 – 13/02/2024 tCO₂e</th> <th>TOTAL 01/05/2022 – 13/02/2024 tCO₂e</th> </tr> </thead> <tbody> <tr> <td>BE</td> <td>44,596</td> <td>57,334</td> <td>7,473</td> <td>109,403</td> </tr> <tr> <td>PE</td> <td>307</td> <td>281</td> <td>38</td> <td>626</td> </tr> <tr> <td>Leakage</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Net GHG</td> <td>44,289</td> <td>57,053</td> <td>7,435</td> <td>108,777</td> </tr> </tbody> </table>	GHG Emission Reductions or Removals	01/05/2022 – 31/12/2022 tCO ₂ e	01/01/2023 – 31/12/2023 tCO ₂ e	01/01/2024 – 13/02/2024 tCO ₂ e	TOTAL 01/05/2022 – 13/02/2024 tCO ₂ e	BE	44,596	57,334	7,473	109,403	PE	307	281	38	626	Leakage	0	0	0	0	Net GHG	44,289	57,053	7,435	108,777
GHG Emission Reductions or Removals	01/05/2022 – 31/12/2022 tCO ₂ e	01/01/2023 – 31/12/2023 tCO ₂ e	01/01/2024 – 13/02/2024 tCO ₂ e	TOTAL 01/05/2022 – 13/02/2024 tCO ₂ e																						
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PE	307	281	38	626																						
Leakage	0	0	0	0																						
Net GHG	44,289	57,053	7,435	108,777																						
Findings	N/A																									
Conclusion	RINA verified that the emission reductions were calculated in accordance with the registered PDD /1/ and Methodology /11/.																									

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD.

Means of verification	The emission reductions from the project for the current monitoring period (2 years) as reported in the monitoring report are equivalent to 108,777 tCO ₂ . The reported emission reductions are 3.4% less than the estimated emission reduction of 56,282 tCO ₂ (annually or for two years – 112,564) for the same period of 2 years, as per the registered PDD /1/, which is an acceptable difference. This difference is caused by the different processing yield. The calculation is verified through calculation spreadsheet /4,5/.
Findings	N/A
Conclusion	The actual emission reduction is a little less than the estimated reduction given in the registered PDD /1/, which is an acceptable difference. This difference is caused by the different processing yield.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	The emission reductions from the project for the current monitoring period (2 years) as reported in the monitoring report are equivalent to 108,777 tCO ₂ . The reported emission reductions are 3.4% less than the estimated emission reduction of 56,282 tCO ₂ (annually or for two years – 112,564) for the same period of 2 years, as per the registered PDD /1/, which is an acceptable difference. This difference is caused by the different processing yield. The calculation is verified through calculation spreadsheet /6,7/.
Findings	N/A
Conclusion	The actual emission reduction is a little less than the estimated reduction given in the registered PDD /1/, which is an acceptable difference. This difference is caused by the different processing yield.

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	RINA verified that the actual monitoring period does not fall into the first commitment period.
Findings	NA
Conclusion	RINA verified that the actual monitoring period does not fall into the first commitment period.

E.8.8. Assessment of the sustainability parameters

<p>Means of verification</p>	<p>SDG 4 Quality Education Number of employees provided skill development training (PDD value of 64): 01/05/2022 – 31/12/2022 – verified 64 participants /18,23/. 01/01/2023 – 31/12/2023 – verified 64 participants /18,23/. 01/01/2024 – 13/02/2024 – up to the audit, verified 25 participants /18,23/.</p> <p>SDG 5 Gender Equality Number of women serving in managerial/ leadership/ownership role (PDD value of 3) 01/05/2022 – 31/12/2022 – verified 3 /19,23/. 01/01/2023 – 31/12/2023 – verified 3 /19,23/. 01/01/2024 – 13/02/2024 – up to the audit, verified 3 /19,23/.</p> <p>Proportion of women in managerial positions (PDD value of 50%) 01/05/2022 – 31/12/2022 – verified 60% /19,23/. 01/01/2023 – 31/12/2023 – verified 60% /19,23/. 01/01/2024 – 13/02/2024 – up to the audit, verified 60% /19,23/.</p> <p>SDG 7 Affordable and Clean Energy</p> <p>Monitoring Parameter No4 Total energy saving (PDD value of 129,432 MWh/year) The saving is calculated as a difference between the baseline primary aluminium production energy consumption as per AMS-III.AJ and the total energy consumed by the project for the production of secondary aluminium. 01/05/2022 – 31/12/2022 – verified 101,714 /23,29,30,31,33/. 01/01/2023 – 31/12/2023 – verified 131,264 /23,29,30,31,33/. 01/01/2024 – 13/02/2024 – up to the audit, verified 17,109 /23,29,30,31,33/.</p> <p>SDG 8 Decent work and economic growth Total number of jobs (PDD value of 64): 01/05/2022 – 31/12/2022 – verified 64 /19,23/. 01/01/2023 – 31/12/2023 – verified 64 /19,23/. 01/01/2024 – 13/02/2024 – up to the time of audit, verified 64 /19,23/.</p> <p>SDG 13 Climate Action Emission reduction per year (PDD value of 56,282 tCO₂) 01/05/2022 – 31/12/2022 – verified 44,289 tCO₂ /4,5,13,14,23,29,30,31,33,34,35/ 01/01/2023 – 31/12/2023 – verified 57,053 tCO₂ /4,5,13,14,23,29,30,31,33,34,35/ 01/01/2024 – 13/02/2024 – up to the time of audit, verified 7,435 tCO₂ /4,5,13,14,23,29,30,31,33,34,35/.</p> <p>Monitoring Parameter No 7 EC_{i,y} = Electricity consumption of the recycling facility (PDD value of 589.114 MWh) 01/05/2022 – 31/12/2022 – verified 481.745 /23,29/. 01/01/2023 – 31/12/2023 – verified 316.643, /23,29/. 01/01/2024 – 13/02/2024 –verified 32.168 /23,29/.</p> <p>Monitoring Parameter No 8 Municipal solid waste (PDD value of 12,016 tones/year) 01/05/2022 – 31/12/2022 – verified 6,764.43 tones /23, 39,41,42/. 01/01/2023 – 31/12/2023 – verified 11,111.13 tones /23/. 01/01/2024 – 13/02/2024 –verified 1,394.76 tones /23/.</p> <p>Monitoring Parameter No 9 Quantity of metal type i (Aluminium) recycled in year y (PDD value of 9,370 tones/year) 01/05/2022 – 31/12/2022 – verified 7,373.83 tones /23, 39,41,42/.</p>
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	<p>01/01/2023 – 31/12/2023 – verified 9,479.85 tones /23/ 01/01/2024 – 13/02/2024 –verified 1,235.74 tones /23/</p> <p>Monitoring Parameter No 10 Diesel consumption of the recycling facility (PDD value of 644.494 MWh) 01/05/2022 – 31/12/2022 – verified 369.677 MWh and 31.472 tones /4,5,13,14,23,30/ 01/01/2023 – 31/12/2023 – verified 459.289 MWh and 39.101 tones /4,5,13,14,23,30/ 01/01/2024 – 13/02/2024 – verified 59.347 MWh and 5.052 /4,5,13,14,23,30/</p> <p>Monitoring Parameter No 11 Natural gas consumption of the recycling facility (PDD value of 233.712 MWh) 01/05/2022 – 31/12/2022 – verified 445.97 /4,5,13,14,23,31/. 01/01/2023 – 31/12/2023 – verified 392.718 /4,5,13,14,23,31/. 01/01/2024 – 13/02/2024 –verified 62.452 /4,5,13,14,23,31/.</p> <p>EFel - CO2 emissions factor for energy consumption in the production of aluminum recycled in tCO2/MWh (PDD value of 0.213) 01/05/2022 – 31/12/2022 – 0.22325, verified ANRE Report /20,23/. 01/01/2023 – 31/12/2023 – 0.22325, verified ANRE Report /20,23/. 01/01/2024 – 13/02/2024 – 0.22325, verified ANRE Report /20,23/.</p> <p>EFnatural gas - CO2 emissions factor for natural gas consumption in the production of aluminum recycled in tCO2/MWh (PDD value of 0.389) 01/05/2022 – 31/12/2022 – 0.202, verified IPPC Report /21,23/. 01/01/2023 – 31/12/2023 – 0.202, verified IPPC Report /21,23/. 01/01/2024 – 13/02/2024 – 0.202, verified IPPC Report /21,23/.</p> <p>EFFF, diesel - CO2 emissions factor for diesel consumption in the production of aluminum recycled in tCO2/TJ (PDD value of 73.56) 01/05/2022 – 31/12/2022 – 73.56, verified PDD /1,23/. 01/01/2023 – 31/12/2023 – 73.56, verified PDD /1,23/. 01/01/2024 – 13/02/2024 – 73.56, verified PDD /1,23/.</p> <p>Safeguard Principles Number of accidents and incidents (PDD value of 1) 01/05/2022 – 31/12/2022 – 1, verified on-site in Safety Report /22,23/. 01/01/2023 – 31/12/2023 – 0, verified on-site in Safety Report /22,23/. 01/01/2024 – 13/02/2024 – 0, verified on-site in Safety Report /22,23/.</p>
Findings	N/A
Conclusion	RINA verified that the GS indicators described in the monitoring report /3/ are accurate and real. Data to cross check the monitored parameters are available at the office of the company. Also, the registers of the sustainability indicators were available during the site visit /4,5,13,14,18,19,22,23,29,30,31,32/. Some differences are caused by the different processing yield.

Internal quality control

The draft final verification report before being submitted to the client will be subjected to an independent technical review to confirm that all verification activities has been completed according to the pertinent RINA's procedures. The technical review will be performed by a technical reviewer(s) qualified in accordance with the RINA's qualification procedure.

SECTION F. Verification opinion

RINA Services Spa (RINA) has performed the verification of the emission reductions reported for the project activity "ALUMINUM RECYCLING – A SOLUTION FOR CO2 EMISSION REDUCTION BY AS METAL, ROMANIA", GS Registration Reference No. 10878 for the monitoring period 01/05/2022 to 13/02/2024, with regard to the relevant GS requirements and principles for project activities /7-12/. The project participants are responsible for the preparation for the collection of data in accordance with the monitoring plan and the reporting emission reductions from the project. It is RINA's responsibility to express an independent verification opinion on the reported emission reductions from the project and VVBs not express any opinion on the selected baseline scenario or on the validated and registered PDD. Based on documented evidences and corroborated by an on-site assessment RINA can confirm that: (i) the project has been implemented and operated as per the registered PDD; (ii) the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable GS requirements and principles; (iii) the monitoring is in place as per the applied baseline and monitoring methodology; (iv) the monitoring complies with the registered monitoring plan; (v) the monitoring plan in the registered PDD is as per the applied baseline and monitoring methodology.

SECTION G. Certification statement

It is RINA's opinion that the GHG emission reductions (GS VERs) stated in the latest version of monitoring report (Version 2.2 of 04/11/2024) /3/ for the project activity "ALUMINUM RECYCLING – A SOLUTION FOR CO2 EMISSION REDUCTION BY AS METAL, ROMANIA" for the period 01/05/2022 to 13/02/2024 are fairly stated. The GHG emission reductions were calculated correctly on the basis of the approved Monitoring Methodology "AMS-III.AJ. Recovery and recycling of materials from solid wastes" /11/. Hence RINA is able to certify that the emission reductions from the project during the monitoring period 01/05/2022 to 13/02/2024 **amount to 108,777 tCO₂** totally, as follows:

GHG Emission Reductions or Removals	01/05/2022 – 31/12/2022	01/01/2023 – 31/12/2023	01/01/2024 - 13/02/2024	TOTAL 01/05/2022 – 13/02/2024
	tCO₂e	tCO₂e	tCO₂e	tCO₂e
BE	44,596	57,334	7,473	109,403
PE	307	281	38	626
Leakage	0	0	0	0
Net GHG	44,289	57,053	7,435	108,777

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
CRT	Coordination and Technical Control Staff
DCI	Certification Division of RINA Services Spa
DNA	Designated National Authority
VVB	Validation Verification Body
EB	Executive Board
EPIAS	Energy Market Operation Inc.
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GS4GG	Gold Standard for Global Goals
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
RINA	RINA Services Spa
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms: Konstantin Dimitrov RACHEV

è qualificato come¹:
is qualified as: TL – VAL – VER – TEC – ITR

nello schema²:
for the scheme: GS4GG – VCS – SCS – UER – CCB – ISO14064-2

per le seguenti aree tecniche:
for the following technical areas: 1.2 – 3.1 – 5.1 – 13.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1
5.1	Chemical industry	5
13.1	Solid waste and wastewater	13
3.1	Energy demand	3

in accordo alle istruzioni dell'Unità responsabile (OU) per sostenibilità & cambiamenti climatici.
in accordance with the instructions of the responsible unit (OU) for the sustainability & climate change.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	-
1	20/03/2022	Update qualification as ITR
2	31/01/2024	Update to TA 3.1

Il Responsabile di schema
Scheme Manager

¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
REG-EXP: Regional Expert
ITR: Independent Reviewer
DET: Determiner

² Legend:

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS4GG: Gold Standard for Global Goals
SCS: SocialCarbon Standard
JI: Joint Implementation
ISO14064-2: International standard 14064 part 2
UER: Upstream Emission Reduction
CCB: The Climate, Community & Biodiversity Alliance

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS.

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS4GG Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports.

CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI*
QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Cyril Augustus Arokiasamy Amalorpavanathan

è qualificato come:
is qualified as:

TEC, VAL, VER, TL, Local Expert, ITRP

per le seguenti aree tecniche:
for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation	1
1.2	Renewables	1
3.1	Energy Demand	3
5.1	Chemical industry	5
13.1	Solid Waste and wastewater	13

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template (this certificate is linked to CDM qualification)
2	09/10/2017	Qualification update as ITRP

Responsabile di schema
Scheme Leader
Laura SEVERINO



*SCHEMI VOLONTARI/ VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, GS Gold Standard, JI Joint Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert; VAL: Validator; VER: Verifier; TL: Team leader; FIN EXP: Financial Expert; ITRP: Independent technical reviewer

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UNFCCC	quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects
VCSA	per condurre la Validazione e la Verifica di Progetti VCS to carry out Validation and Verification of VCS Projects
GS Foundation	per condurre la Validazione e la Verifica di Progetti GS to carry out Validation and Verification of GS Projects
Ecologica Institute	per condurre la Validazione e la Verifica di rapporti SCS to carry out Validation and Verification of SCS Reports
American Carbon Registry ACR	per condurre la Validazione e la Verifica di Progetti ACR to carry out Validation and Verification of ACR projects
The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects

CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI*
QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra: Victor Milkov
We declare that Mr/Mrs/Ms: _____

è qualificato come: TEC, FIN EXP
is qualified as: _____

per le seguenti aree tecniche:
for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation	1
1.2	Renewables	1

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template (this certificate is linked to CDM qualification)

Responsabile di schema
Scheme Leader
Rita Valoroso



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The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects

Appendix 3. Documents reviewed or referenced.

No	Author	Title	References to the document	Provider
1	AS Metal Com SRL	GS-PDD for ALUMINUM RECYCLING – A SOLUTION FOR CO2 EMISSION REDUCTION BY AS METAL, ROMANIA	version 4 of 11/10/2023	Project participant
2	EPIC Sustainability Services Private Limited	Validation Report for ALUMINUM RECYCLING – A SOLUTION FOR CO2 EMISSION REDUCTION BY AS METAL, ROMANIA	version 2.0 issued on 16/12/2023	Project participant
3	AS Metal Com SRL	Current GS4GG Monitoring Report (1 st) for ALUMINUM RECYCLING – A SOLUTION FOR CO2 EMISSION REDUCTION BY AS METAL, ROMANIA	Version 01 of 25/03/2024 version 02 of 29/04/2024 version 2.1 issued on 03/09/2024 version 2.2 issued on 04/11/2024	Project participant
4	AS Metal Com SRL	Excel file: Monitoring parameter no.6_SDG13_ER Calculation_AS Metal_monitoring period 14.02.2022-13.02.2024_25.03.2024 ER Calculation_AS Metal_monitoring period 14.02.2022-13.02.2024_27.08.2024 SDG13_ER Calculation_AS Metal_monitoring period 01.05.2022-13.02.2024_04.11.2024	Version 01 of 25/03/2024 version 02 of 27/08/2024 ver. 3 of 04/11/2024	Project participant
5	AS Metal Com SRL	Excel file: Monitoring parameter no.7, 10, 11_Energy and Fuels Consumption_monitoring period 14.02.2022-13.02.2024_25.03.2024 Excel file: Monitoring parameter no.7, 10, 11_Energy and Fuels Consumption_monitoring period 01.05.2022-13.02.2024_04.11.2024	Version 01 of 25/03/2024 version 02 of 29/04/2024 version 03 of 04/11/2024	Project participant
6	AS Metal Com SRL	RINA ISO 9001, ISO 14001 and ISO 45001 Certificates for this Monitoring Period	2022, 2023, 2024	Project participant
7	Gold Standard Foundation	Gold Standard for Global Goals Principles & Requirements	version 1.2 of 23/10/2019	Publicly available
8	Gold Standard Foundation	GHG Emissions Reductions & Sequestration Product Requirements	Version 2.0	Publicly available
9	Gold Standard Foundation	GS Safeguarding Principles and Requirements	Version 1.2	Publicly available
10	Gold Standard Foundation	Site visit and remote audit requirements and procedures	Version 2.0 of 30/05/2023	Publicly available
11	CDM Executive Board	Baseline and monitoring methodology “AMS-III.AJ. Recovery and recycling of materials from solid wastes”	version 9.0 of 08/09/2022	Publicly available
12	Gold Standard Foundation	Gold standard for the global goals Monitoring Report Template.	version 1.1 of 14/10/2020	Publicly available
13	AS Metal Com SRL	Centralized production data for the years 2022 to 2024 and centralised utility report for the years 2022 to 2024.	Verified on-site	Project participant
14	AS Metal Com SRL	Data in ERP software for the years 2022 to 2024, covered financial, accounting, production and HR modules.	Verified on-site	Project participant
15	AS Metal Com SRL	Logbook	Verified on-site	Project participant

14	Ministry of Environment, Water and Forest, National Environmental Protection Agency	Integrated Environmental Permit	N 68 of 28/12/2011 last revision in 22.04.2021 18.10.2023	Project participant
15	National Environmental Protection Agency	Inspection Report – VISA for 2022 Inspection Report – VISA for 2023 Inspection Report – VISA for 2024	15/10/2021 18/10/2022 18/10/2023	Project participant
16	VCS Website	https://registry.verra.org/app/search/VCS/All%20Projects	Retrieved on: 12/04/2024	Publicly available
17	GCC Website	https://projects.globalcarboncouncil.com/pages/submitted_projects https://projects.globalcarboncouncil.com/pages/approved_projects	Retrieved on: 12/04/2024	Publicly available
18	AS Metal Com SRL	Training sheet of 04/07/22 with 64 participants. Training sheet of 07/06/23 with 64 participants. Training sheet of 05/02/24 with 25 participants Participation sheet of 22/01/24 with 51 participants	04/07/22 07/06/23 05/02/24 22/01/24	Project participant
19	AS Metal Com SRL	ERP HR module – list of employees and official HR statement for 2022, 2023 and 2024	2022, 2023 and 2024	Project participant
20	National Energy Regulatory Authority (ANRE)	Annual Report from National Energy Regulatory Authority (ANRE)	2022	Publicly available
21	IPPC 2022	Greenhouse gases emission factors for local emission inventories, Covenant of Mators databases - Version 2022, pag 5 based on IPPC values	2022	Publicly available
22	AS Metal Com SRL	Safety Reports	2022, 2023, 2024	Project participant
23	AS Metal Com SRL	Company documents and records for Monitoring Parameters from 1 to 15 for the current MP	2022, 2023, 2024	Project participant
24	National Institute of Metrology	http://www.inm.ro/en/?page=capability Order 77/2022	Retrieved on: 11/04/2024	Publicly available
25	INDUSTRIAL ENERGY-PRODUCTIE SA	Electricity meter N 62079194: Meter installation receipt of 03/06/2014 Electricity meter N 36086022: Meter metrological verification bulletin of 27/09/2016	03/06/2014 27/09/2016	Project participant
26	Distrigaz Sud Retele SRL	Measuring device Periodical verification sheet of 25/06/2020 Measuring device Periodical verification sheet of 16/10/2023	25/06/2020 16/10/2023	Project participant
27	The metrology laboratory of "Metroreal"	Weight – bridge scale Metrological verification bulletin of 06/07/2023 (series 5210268-5FC) Weight – bridge scale Metrological verification bulletin of 12/07/2022 (series 5210268-5FC)	06/07/2023 12/07/2022	Project participant
28	The metrology laboratory of "Metrored"	Weight – bridge scale Metrological verification bulletin of 06/07/2021 (series 5210268-5FC)	06/07/2021	Project participant
29	AS Metal Com SRL	Monthly protocols for consumed electric energy by the project	2022, 2023, 2024	Project participant

30	AS Metal Com SRL	Printout from software program product PIUS Fluid Handling Technology (SelfService) of diesel fuel consumption by the project for the monitored period	2022, 2023, 2024	Project participant
31	AS Metal Com SRL	Monthly invoices for consumed natural gas by the project	2022, 2023, 2024	Project participant
32	CDM Executive Board	Clean Development Mechanism Validation and Verification Standard	version 03.0 of 09/09/2021	Publicly available
33	AS Metal Com SRL	Monitoring parameter no.4_AS METAL_SDG7_Energy saving_monitoring period 14.02.2022-13.02.2024_29.04.2024 Monitoring parameter no.4_AS METAL_SDG7_Energy saving_monitoring period 01.05.2022-13.02.2024_04.11.2024	Version 01 of 25/03/2024 version 02 of 29/04/2024 version 03 of 04/11/2024	Project participant
34	AS Metal Com SRL	SDG_indicators_AS Metal_14.02.2022-13.02.2024_29.04.2024	Version 01 of 25/03/2024 version 02 of 29/04/2024	Project participant
35	AS Metal Com SRL	SDG-Impact-tool_AS METAL_monitoring period 14.02.2022-13.02.2024_29.04.2024 SDG-Impact-tool_AS METAL_monitoring period 01.05.2022-13.02.2024_04.11.2024	Version 01 of 25/03/2024 version 02 of 29/04/2024 version 02 of 04/11/2024	Project participant
36	AS Metal Com SRL website	https://asmetal.ro/wp-content/uploads/2024/01/FORMULAR-RECLAMATIE_2.pdf	Retrieved on: 11/04/2024	Project participant
37	AS Metal Com SRL	Early signed General Contract	03/01/2022 16/01/2023 10/01/2024	Project participant
38	AS Metal Com SRL	TDL Romania 2023_DEO_Sustenabilitate_2023_Final_MarcaGri_pg 59	Retrieved on: 09/09/2024	Project participant
39	AS Metal Com SRL	Monitoring parameter no.8_AS METAL_SGDG13_year 2022_v2	Retrieved on: 18/11/2024	Project participant
40	AS Metal Com SRL	Monitoring parameter no.9_AS METAL_SDG13_year 2022_v2	Retrieved on: 18/11/2024	Project participant
41	AS Metal Com SRL	Total waste use for monitoring parameter 7,10,11 for tonnes of all type of waste recycled, year 2022	Retrieved on: 18/11/2024	Project participant
42	AS Metal Com SRL	Waste input in installations from the stock 01.05.2022	Retrieved on: 18/11/2024	Project participant

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. Remaining FAR from validation and/or previous verification

FAR ID		Section no.		Date:
Description of FAR				
None				
Project participant response				Date:
Documentation provided by project participant				
DOE assessment				Date:

Table 2. CR from this verification

CR ID		Section no.		Date:
Description of CR				
None				
Project participant response				Date:
Documentation provided by project participant				
DOE assessment				Date:

Table 3. CAR from this verification

CAR ID	1	Section no.	E.6.2	Date: 18/04/2024
Description of CAR				
In the ER excel sheet, the project ER calculation from diesel consumption is not correctly calculated, according to the used Methodology.				
Project participant response				Date: 29/04/2024
The ER has been updated according to the formulae from the methodology for the ER calculation for diesel consumption. The results for each year were corrected in the Monitoring Report.				
Documentation provided by project participant				
Monitoring parameter no.6_SDG13_ER Calculation_AS Metal_monitoring period 14.02.2022-13.02.2024_29.04.2024 and Monitoring-Report_AS METAL_29.04.2024_V2				
DOE assessment				Date:

CAR ID	2	Section no.	E.6.2	Date: 18/04/2024
Description of CAR				
The consumed electricity for 2023 is not correctly stated in the MR.				
Project participant response				Date: 29/04/2024
The consumed electricity for 2023 was revised and corrected in the Monitoring Report, in the ER excel sheet. The revised documents related to the Monitoring Report that involve the consumed electricity are mentioned below.				
Documentation provided by project participant				

Monitoring parameter no.4_AS METAL_SDG7_Energy saving_monitoring period 14.02.2022-13.02.2024_29.04.2024	
Monitoring parameter no.6_SDG13_ER Calculation_AS Metal_monitoring period 14.02.2022-13.02.2024_29.04.2024	
MWh and Tonnes - Monitoring parameter no.7, 10, 11_Energy and Fuels Consumption_monitoring period 14.02.2022-13.02.2024_29.04.2024	
Monitoring-Report_AS METAL_29.04.2024_V2	
DOE assessment	Date: 14/05/2024
The VVB close this CAR.	

CAR ID	3	Section no.	E.6.2	Date: 18/04/2024
Description of CAR				
The diesel consumption for 2023 is not consistent with the number of diesels in the ER excel sheet.				
Project participant response				Date: 29/04/2024
The diesel consumption for 2023 was revised from the invoice with decimal value and used the new values in monitoring parameters and ER calculation. For all monitored years the amount of diesel was recalculated using the IPCC density factor 0.832 for conversion from litres to tonnes. All changes can be found in the documents submitted and mentioned below.				
Documentation provided by project participant				
Monitoring parameter no.4_AS METAL_SDG7_Energy saving_monitoring period 14.02.2022-13.02.2024_29.04.2024				
Monitoring parameter no.6_SDG13_ER Calculation_AS Metal_monitoring period 14.02.2022-13.02.2024_29.04.2024				
MWh and Tonnes - Monitoring parameter no.7, 10, 11_Energy and Fuels Consumption_monitoring period 14.02.2022-13.02.2024_29.04.2024				
Monitoring-Report_AS METAL_29.04.2024_V2				
DOE assessment				Date: 14/05/2024
The VVB close this CAR				

Table 4. FAR from this verification

FAR ID		Section No.		Date:
Description of FAR				
None				
Project participant response				Date:
Documentation provided by project participant				
DOE assessment				Date:

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	10/06/2016	Initial publication.