ADRIATIC METALS PLC

VAREŠ PROJECT

AIR QUALITY AND GREENHOUSE GAS MANAGEMENT PLAN

September 2024

Content

Air Quality and Greenhouse Gas Management Plan

This document has been developed/revised as indicated below and described in the audit record on the next page. Please delete all previous versions.

Audit	Date	Authors	Revised by	Site
1.0	August 2021	Goran Prajo	Vildana Mahmutović Kate Harcourt	23
2.0	October 2021	Goran Prajo Vildana Mahmutović	Vildana Mahmutović	24
3.0	October 2022	Goran Prajo	Vildana Mahmutović	26 + 3 Appendixes
4.0	September 2024	Goran Prajo	Vildana Mahmutović Danira Zanović	28

ISSUED FOR: ☐ Design ☐ Construction ☒ X Operations ☐ Other_____

1. INTRODUCTION

Adriatic Metals BH is the holder of concessions for the exploration and exploitation of polymetallic ore in Vareš (Bosnia and Herzegovina). Based on the conducted research, the company has developed a project for the exploitation and processing of polymetallic ore in Vareš (Vareš Project), which includes four spatial and technological units:

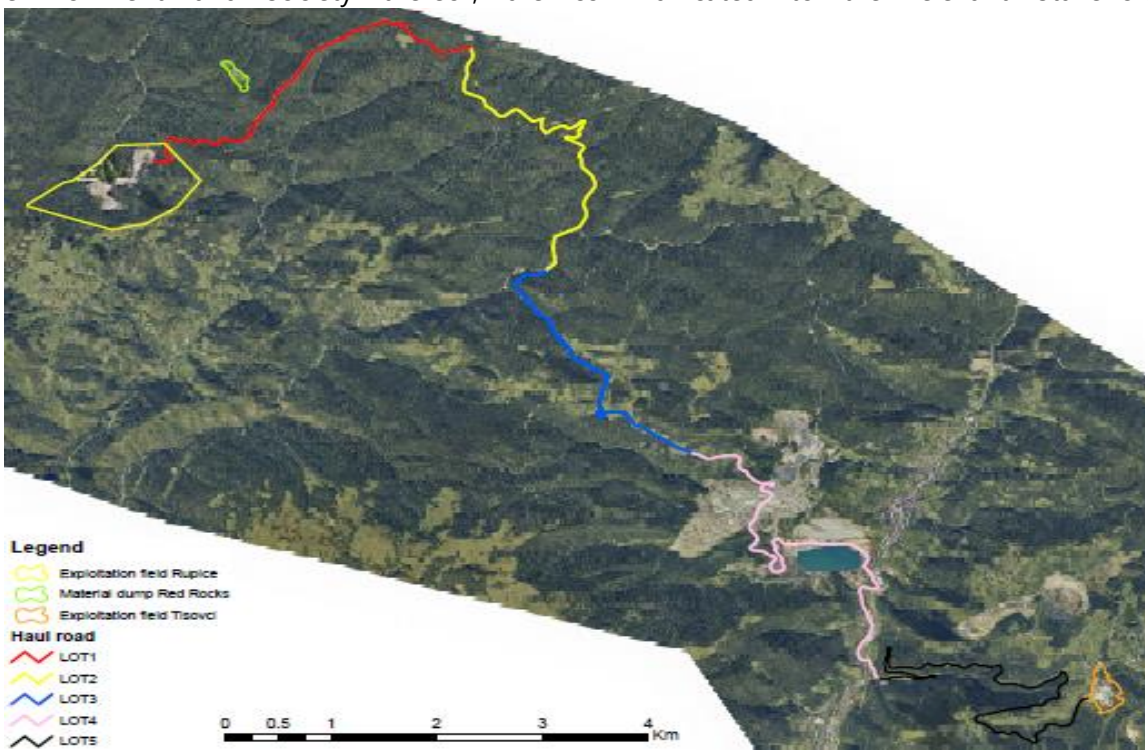
- Rupice Mine - The footprint of the Rupice Mine project is 103.92 ha;
- Tisovci Ore Processing Plant - The project footprint of the Tisovci Plant is 107.68 ha;
- Public (Haul) road Rupice - Tisovci (length 24.5 km);

The Vareš area is historically known for the exploitation and processing of ore, and the Vareš project represents a continuation of the traditional exploitation and processing of ore based on good industrial practices and the best available techniques.

Preparatory work began in November 2021, and the construction of an underground mine, ore processing plant and transport road began in the summer of 2022 and continued throughout 2023. The construction of the project facilities is in the final phase.

During the development of the project and the constructive phase, changes were made to individual project solutions in order to apply better technical solutions, spatial positions of parts of the project, avoidance of priority habitats and habitats of species of conservation importance.

All changes in relation to the baseline project, as well as changes in the impact on the environment and society thereof, are communicated to the relevant stakeholders.



Picture 1. Overview of the Vareš project

The purpose of the Air Quality and Greenhouse Gas Management Plan is to describe potential risks to air quality, which are associated with project activities, and to consider and determine protection measures that would prevent or mitigate negative impacts. The plan contains information on how the procedures will be monitored, their effectiveness and measures in case the limit values are exceeded. The aim of this plan is to achieve compliance with standards related to air emissions and ambient air quality, and to mitigate long-term impacts on sensitive receptors (human and environmental) through several routes of exposure.
The scope of the plan will apply to all works and activities related to the AMBH Project, i.e. to the concession area of the Project, including employees, contractors and subcontractors working for AMBH.

This plan is in line with other management plans such as:

- Traffic Management Plan
- Contractor Management Plan

The plan is in line with national legislation, the requirements of international financial institutions (e.g. IFC performance standards, EBRD performance requirements) and other applicable good practices. This plan is a living document and responsibilities, procedures and compliance measures should be updated as necessary.

2. Legal standards and requirements

AMBH intends to implement practices in accordance with international practices in addition to local law legislation, respecting the principles and policies of the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC).

2.1. National legislation

- Law on Environmental Protection (Official Gazette of FBiH, No. 15/21)
- Law on Air Protection (Official Gazette of FBiH, No. 33/03 and 4/10)
- Rulebook on Air Quality Monitoring (Official Gazette of FBiH, No. 12/05 and 9/16)
- Rulebook on Monitoring of Emissions of Pollutants into the Air ("Official Gazette of FBiH", No. 9/14 and 97/17)
- Rulebook on Emission of Volatile Organic Compounds (Official Gazette of FBiH, No. 12/05)
- Rulebook on Limit Values for Emissions into Air from Combustion Plants (Official Gazette of FBiH, No. 3/13 and 92/17)
- Rulebook on Limit Values for Emissions of Pollutants into the Air (Official Gazette of FBiH, No. 12/05)
- Rulebook on Gradual Exclusion of Substances Depleting the Ozone Layer ("Official Gazette of FBiH", No. 39/05)
- Rulebook on Conditions for Measurement and Control of Sulfur Content in Fuel (Official Gazette of FBiH, No. 6/08)
- Rulebook on the Manner of Monitoring Air Quality and Defining Types of Pollutants, Limit Values and Other Air Quality Standards ("Official Gazette of FBiH", No. 1/12, 50/19 and 3/21).

2.2. International Requirements

Air quality guidelines for mining activities are set out in the IFC guidelines on general EHS (environment, health and safety). They were adopted from the World Health Organization (WHO) Guidelines on Air Quality and Interim Air Quality Targets. The EBRD's policy on E&S (Environment & Society) refers to the standard set out in the relevant European Union directives (Directive 2008/50/EC).

WHO and EU standards focus on PM10 and PM2.5 because, according to health research, their guidelines indicate that this particle size poses the greatest risk to human health. Total particulate matter (TSP) is generally associated with unpleasant effects such as fouling, visual impacts, and deposition in the eyes and nose. They are not considered to pose the same health risks and no WHO/EU guidance specifically for TSPs has been published.

This plan also follows the requirements of the European Bank for Development and Reconstruction (EBRD), regarding the guidelines.

Table 1. EBRD guidelines

PR 3: Resource efficiency and pollution prevention and control	**This public relations programme shall outline the approach to and management of climate impacts and greenhouse gas emissions, resource and pollution management, while minimising risks and impacts associated with hazardous substances.**

This plan also follows the requirements of the IFC, regarding the guidelines:

- IFC PS1: Assessment and management of environmental and social risks and impacts,
- IFC PS3: Resource Efficiency and Pollution Prevention,
- IFC PS4: Health, Safety & Community Protection,
- IFC EHS General Guidelines: 1.1 Air Emissions and Ambient Air Quality, April 30,2007

The air quality standards that are relevant to the Project and that will be used for ESIA are determined on the basis of the most stringent values applicable to the Project. These are defined and underlined in Table 2 and Table 3 below.

Table 2: Air quality guidelines applicable to the Project

Pollutants	National Standards	EU Air Quality Standards[1]	WHO/IFC guidelines[2]
Dust deposition rate	***200 mg/m2/ day*** ***350 mg/m2 measured over a period of 4 weeks***	-	-
Total Precipitated Matter (TSP)	-	-	-
PM10	40µg/m3 annual mean value 50µg/m3 24-hour mean value	40µg/m3 annual mean value 50µg/m3 24-hour mean value	***20µg/m3 annual mean value*** ***50µg/m3 24-hour mean value***
PM2.5	20µg/m3 annual mean value	25µg/m3 24-hour mean value	***10µg/m3 annual mean value*** ***25µg/m3 24-hour mean value***
SO2	***50µg/m3 annual mean value*** 125µg/m3 24-hour mean value 350µg/m3 1-hour mean value	125µg/m3 24-hour mean value 350µg/m3 1-hour mean value	***20µg/m3 24-hour mean value*** ***350µg/m3 1-hour mean value***
NO2	40µg/m3 annual mean value 85µg/m3 24-hour mean value 200µg/m3 1-hour mean value	40µg/m3 annual mean value 200µg/m3 1-hour mean value	***40µg/m3 annual mean value*** ***200µg/m3 1-hour mean value***
Carbon monoxide (CO)	3 mg/m3 annual mean value 5 mg/m3 24-hour mean value	10 mg/m3 8-hour mean value	**30 mg/m3 1-hour mean value** **10 mg/m3 8-hour mean value**

[1] European Union, Air Quality Standards in accordance with Directive 2008/50/EU

[2] World Health Organization (WHO). Air Quality Guidelines Global Update, 2005

Table 2: Air quality guidelines applicable to the Project

Pollutants	National Standards	EU Air Quality Standards[1]	WHO/IFC guidelines[2]
	10 mg/m3 8-hour mean value		
Lead (Pb) in total dust	*0.1 (4-week period)*	-	-
Cadmium (Cd) in total dust	*0.002(4-week period)*	-	-
Zinc (Zn) in total dust	*0.4(4-week period)*	-	-
Titanium (Ti) in total dust	*0.02(4-week period)*	-	-
Arsenic (As) in the total dust	*0.004(4-week period)*	-	-
Nickel (Ni) in total dust	*0.015(4-week period)*	-	-
Mercury (Hg) in total dust	*0.001(4-week period)*	-	-
Wood dust	-	*3 mg/m3 8-hour mean value*	-

Table 3: Emission limitvalues

Parameters	EU directive on medium combustion plants (mg/Nm3)[3]	EU Industrial Emissions Directive (mg/Nm3)[4]	IFC Guidelines for Small Combustion Emissions (3MWth – 50MWth)[5]
Sulfur oxides	400	400	0.5 percent sulfur or a lower percentage of sulfur if commercially available without significant excess fuel costs
Nitrogen oxides	300	300	N/A
Total suspended particles	20	30	96 ppm (Electric Generation) 150 ppm (Mechanical Drive)

Table 4 IIFC Performance Standards and EBRD Performance Requirements -Key roles and responsibilities of the relevant requirements.

[3] Directive (EU) 2015/2193 of the European Parliament and of the Council of 25 November 2015 On the limitation of emissions of certain pollutants into air from medium combustion plants

[4] Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions

[5] IFC General Guidelines for EHS: Environment – Air Emissions and Ambient Air Quality

Table 4: IFC Performance Standards and EBRD Performance Requirements – Key Relevant Requirements

	Greenhouse gases	Climate Change Mitigation & Adaptation
IFC Performance standards	**PS1** "The process of identifying risks and impacts will consider greenhouse gas emissions, relevant risks related to climate change and adaptation opportunities, and potential transboundary impacts, such as air pollution, use or pollution of international waterways." **PS3** "Performance Standard 3 recognizes that increased economic activity and urbanization often create increased levels of air, water and land pollution and consume finite resources in a way that can endanger people and the environment at local, regional and global levels. There is also a growing global consensus that current and projected atmospheric concentrations of greenhouse gases threaten public health and the well-being of present and future generations. At the same time, sufficient and more efficient use of resources and pollution prevention, as well as technologies and practices to avoid and mitigate greenhouse gas emissions, have become more accessible and achievable in almost all parts of the world." "In addition to the resource efficiency measures described above, the client will consider alternatives and implement technically and financially feasible and cost-effective options to reduce the greenhouse gas emissions associated with the project during the design and operation of the project. These options may include, but are not limited to, alternative project locations, the adoption of renewable or low-carbon energy sources, sustainable agriculture, forestry and livestock management practices, the reduction of fugitive emissions, and the reduction of gas flaring.	**PS1** "The process of identifying risks and impacts shall consider greenhouse gas emissions, relevant risks related to climate change and adaptation options, and potential transboundary impacts, such as air pollution, use or pollution of international waterways." **PS4** "Performance Standard 4 recognizes that project activities, equipment, and infrastructure can increase the community's exposure to risks and impacts. In addition, communities that are already exposed to the impacts of climate change may also experience an acceleration and/or intensification of impacts due to project activities. While acknowledging the role of public authorities in promoting the health, safety, and safety of the public, this performance standard addresses the client's responsibility to avoid or minimize the risks and impacts on health, community safety, and safety that may arise from project-related activities, with a particular focus on vulnerable groups." "The direct impacts of a project on priority ecosystem services can lead to adverse risks and impacts on the health and safety of affected communities. With respect to this performance standard, ecosystem services are limited to the provision and regulation of services as defined in paragraph 2. For example, land-use changes or the loss of natural buffer areas such as wetlands, mangroves and terrestrial forests that mitigate the impacts of natural hazards such as floods, landslides and fires can lead to increased vulnerability and risks and impacts related to community safety. The reduction or degradation of natural resources, such as adverse impacts on the quality, quantity and availability of fresh water, can lead to health-related risks and impacts. Where appropriate and feasible, the client will identify these risks

	For projects that are expected to produce or currently produce more than 25,000 tonnes of CO2 equivalent per year, the client will quantify direct emissions from plants owned or controlled within the boundary of the physical project, as well as indirect emissions related to the off-site production of energy used in the project. The quantification of greenhouse gas emissions will be carried out by the client every year in accordance with internationally recognized methodologies and good practices."	and potential impacts on priority ecosystem services that may exacerbate climate change. Adverse impacts should be avoided and, if such impacts are unavoidable, the client shall implement mitigation measures in accordance with paragraphs 24 and 25.
EBRD Performance requirements	**PR3** "This request (PR) describes the approach to climate impacts as well as greenhouse gas emissions at the project level, resource management, and pollution prevention and control. It is based on a mitigation hierarchy, the principle that environmental damage should be rectified as a matter of priority at its source, and the polluter pays principle . The risks and impacts associated with the project related to the use of resources and the generation of waste and emissions should be assessed in the context of the project location and local environmental conditions. Appropriate mitigation measures, technologies and practices should be adopted for the sufficient and efficient use of resources, pollution prevention and control, and the avoidance, minimisation and reduction of greenhouse gas emissions.' "The Client's Environmental Assessment and Social Assessment process will consider alternatives and implement technically and financially feasible and cost-effective options to avoid or reduce project-related greenhouse gas emissions during the design and operation of the project. Such options may include, but are not limited to, alternative project locations, techniques or processes, the adoption of renewable or low-carbon energy sources, sustainable agriculture, forestry and livestock management practices, the reduction of	**Section III: Scope** "The EBRD recognises the importance of addressing the causes and consequences of climate change in its countries of operation. The EBRD will, whenever necessary, engage in innovative investments and technical assistance to support zero/low-carbon investments and climate change mitigation and adaptation opportunities, and identify opportunities to avoid, reduce or reduce greenhouse gas emissions in projects. The EBRD will require its clients to assess the risks caused by climate change. The EBRD will also support its clients in the development of climate change adaptation measures and climate-resilient investments, as well as in the management of risks caused by climate change." **PR1** "... The risks caused by climate change in the project shall be considered throughout the assessment process." **PR3** "As part of the environmental and social assessment process, the client will consider the potential cumulative impacts of water abstraction on third-party users and local ecosystems. This assessment will also consider the potential impacts of climate change. If adverse risks and impacts are identified, the client will implement appropriate mitigation measures to mitigate such risks and impacts in accordance with the mitigation hierarchy approach and the GIP."

	fugitive emissions and the reduction of gas flaring.' "For projects that are expected to either (1) have or are expected to have gross emissions of more than 100,000 tonnes of CO2 equivalent per year, or (2) result in a net change in emissions, positive or negative, of more than 25,000 tonnes of CO2 equivalent per year following investment, the client shall quantify those emissions in accordance with the EBRD Greenhouse Gas Emissions Assessment Protocol. The scope of the GHG assessment includes all direct emissions from the installations, activities and operations that are part of the project, as well as indirect emissions related to the production of energy used in the project. The quantification of greenhouse gas emissions will be carried out by the client every year and reported to the EBRD."	**PR4** "The client will identify and assess potential risks caused by natural hazards, such as earthquakes, droughts, landslides or floods as they are related to the project. This may require clients to carry out a vulnerability assessment of the project to the risks caused by climate change and identify appropriate climate resilience and climate change adaptation measures to be integrated into the design of the project." **PR6** "The initial assessment will consider , but will not be limited to, relevant risks to biodiversity and ecosystem services, with a focus on ... impacts relevant to climate change and adaptation." "In accordance with the GIP, the assessment will consider: both the potential impacts of the project and the project on ecosystem services, including those that could be exacerbated by climate change; (ii) the use of and dependency on these ecosystem services by potentially affected communities and/or indigenous peoples; and (iii) the dependence of the project on these ecosystem services."

3. Roles and responsibilities

The main roles and responsibilities for the implementation of this plan are listed below.

Roles	Accountability
COO & Executive Directors	• Provide adequate resources for the implementation of this Plan • Ensure the distribution of the Plan to all relevant contractors and subcontractors.
Environmental Manager	• Review and update the Plan as necessary (In coordination with the Environment Coordinator) • Provide technical support to the Contractors for the implementation of the Plan. • Provide and provide appropriate training to contractors and the project company, through review of training records and related training documents.
Environmental Coordinator and Environmental Associates	• Main responsibility for ensuring the implementation of the Plan and reporting to senior management on the implementation of the Plan. Review and update the Plan as necessary. Collect data from air quality management practices, developed and implemented measures and implementation of measures.
All employees	• Participate in the necessary trainings. • Ensure self-competence in terms of the implementation of this plan.
Performers	• Responsible for reading, understanding and implementing this management plan in their areas of work and responsibility. • Inform the workforce of the content of this management plan and provide the necessary training. • Ensure that the procedures set out in this management plan are respected by their workers and all subcontractors. • Ensure that all environmental events are reported to AMBH, in accordance with the procedures.

4. Air Quality and Greenhouse Gas Management Plan

4.1. Potential air emissions

The potential air quality emissions considered under this air quality management plan are categorised as:

• Fugitive dust:
  - Parcels generated by mining operations, earthworks, transport and handling of materials and unpaved road traffic, crushing and manipulation of ore;

• Combustion emissions:
  - Internal combustion engines (heavy and light vehicles, equipment engines, backup generators); and

• Nuisance odours:
  - Health-related gas emissions that affect employees or nearby residents.

Project activities will include the use of significant amounts of fuel for the operation of plants, equipment and machinery, which will result in greenhouse gas emissions during the construction and operational phases of the mine. Greenhouse gas emissions are monitored every year and a report is formed, which is an integral part of Adriatic Metals' annual report or annual sustainability report.

With the development of the Project, until the end of 2023, generators were used in Rupice for electricity supply, that is, until the release of electricity from the public network, from the Vareš Majdan substation, laid with a 35 kV transmission cable.

At the VPP (Vareš Processing Plant) in Tisovci, electricity from the public grid is also used, and solar panels have been installed on the Administrative Building in Tisovci and the produced energy is used to supply the building itself. In the event of a power outage, generators will be used, which are set up as a "back up" option at each location.

The Vareš project consists of the polymetallic underground mine Rupice and the Vareš Processing Plant (VPP) with the associated infrastructure. The project consists of the following infrastructures:

- The infrastructure of Rupice, which consists of:
  - Underground lows, including vents and primary crusher;
  - Landfill for waste excavation materials of rocks;
  - Stockpile of crude ore that goes to the Processing Plant;
  - Wastewater treatment plant
  - Lagoon
  - Backfill – backfill plant, concrete plant
  - Explosives & Emulsion Storage
  - Workshop/Workshop and Mine Offices

- Public road Tisovci - Rupice: 24.5 km long, which connects the Rupice mine with the Vareš Processing Plant using the existing roads, and new built parts of this road.

- The Vareš processing plant consists of:
  - Crushed ore storage
  - Crushed ore handling plant
  - Grinding plants,
  - Flotation plant with Ball mills
  - Reagent Preparation Plant,
  - Plant with thickeners and filters of concentrates and tailings,
  - Concentrate and tailings handling and loading plant
  - Plant of technological and drinking water systems for the needs of the process
  - Instrument and Process Air Plant
  - Electricity Supply and Distribution Plant

During the operation, the possibility of emission of dust and small particles from mining activities in Rupice is very low, because the works will take place underground. Dust can be created by manipulating the ore at the "Stockpile" site, which is the most manipulative point of the mine due to the crushing plant itself and the movement of heavy vehicles such as pit trucks, loaders and trucks for transporting ore to the VPP, and by manipulating waste rock from the stockpile that will be transported either to the VPP or to the backfill plant.

The crushed ore will be transported by public road to the Vareš Processing Plant in the southeast, where it is stored indoors "Stockpile "VPP".

The erosive action of vehicle traffic on the roads on the transport route is considered a significant potential source of dust because the mechanical action of the wheels on the road surface causes the dust to scatter on the road surface and gets trapped in the air current. The deposition of this dust depends on the size of the particles and meteorological conditions. The erotivity of unpaved roads depends on the number of vehicles moving along the transport route of the road, the speeds of the vehicles and the moisture content of the surface material.

Sources of combustion emissions could include emissions from diesel power generators (the Project uses electricity from the nearby power grid, supplemented by solar energy). The use of in-plant equipment and machinery for mining operations will also result in emissions of nitrogen oxides, particulate matter, sulfur oxides, and carbon monoxide.

Nuisance odours during construction and operation could arise due to improper management of municipal waste (storage and transport of cargo) and treatment/disposal of sanitary wastewater.

Table 6. Below is a summary of the different types of emissions that could affect air quality during the operational phase, according to the Project component.

Table 6: Potential sources of air quality emissions

Project Component	Sources and effects	Fugitive dust	Gases Combustion	Nuisance odors	Other	Characteristics
Mining						
Drilling and blasting	• Drilling dust	X				Fugitive dust generated during drilling activities, mitigated by dust filters and contained in the mine.
	• Blasting dust	X				Fugitive dust generated instantly during blasting; dismantled and placed in the mine.
	• Gases from blasting		X			Combustion gases from blasting.
Loading, Transportation and Transport Related to Mining	• Dust generated by loading and retracting vehicles	X				Fugitive dust from ore/waste rock may contain low concentrations of metals; It is emitted only during dry periods; controlled by watering roads for transport and in Transport areas
	• Vehicle exhaust emissions		X			NOx, SO2, CO, CO2, and particulate matter.
Crushing and preparation of ore						
Crushing plant	• Dust	X				Fugitive dust coming out of the shredder; controlled by water sprayers and housing (dust extraction).
Loading, removal and settling of ore	• Dust generated by loading and retracting vehicles	X			X	Fugitive dust from ore may contain a low concentration of metals; It is emitted only during dry periods; controlled by watering transport roads, in Transport areas and by inherent heap moisture
	• Vehicle exhaust emissions		X			NOx, SO2, CO, CO2, and particulate matter.
Support Infrastructure						
Wastewater treatment	• Unpleasant odors			X		Septic tanks and wastewater treatment plants.
Flotation process on VPP	• Unpleasant odors			X	X	In the flotation process, different gases can be released depending on the minerals being processed such as hydrogen sulfide (H_2S), sulfur dioxide (SO_2). It is recommended to use protective filter masks.
Closure						
Processing Plant, Supporting	Dust	X				Dust from demolition and earthworks. Water sprinklers where necessary.

Infrastructure and Traffic Movement on Roads						
Closing of Dimples and demolition of surface infrastructure	Dust	X				Dust from demolition and earthworks. Water sprinklers where necessary.

4.2. Measures to mitigate the impact on air quality

- Measures to mitigate fugitive dust

To minimize potential impacts on air quality to the extent practical, substantial fugitive dust controls have been incorporated into the engineering design, which include:

- Housing of the primary and secondary crusher for dust extraction and filtration (built-in filters on the mills in the role of preventing the spread of dust);
- Use of water sprinklers at material loading/unloading points and other established dust emission points, updated according to the Plan
- Dust raised from unpaved road surfaces during cargo transport has been identified as the most significant source of emissions. In order to eliminate the risk of unacceptable impact, it will be necessary to secure and maintain unpaved sections of the road near residential locations and near particularly sensitive habitats. They will be identified in the detailed design of the road for the transport of freight.

The project will systematically use additional dust control measures during construction and operations, as set out in the Plan; and include:

- Road control programmes – appropriate dust control techniques will be taken, including spraying roads/vegetation with water and/or applying stabilising agents such as salt (winter), gravel or environmentally inert chemicals, as appropriate. In addition, adequate equipment and personnel are provided for the maintenance of road surfaces for dust control on transport and access roads;

Speed and off-road driving limits – the establishment and enforcement of the Project's safety rules, including the setting and enforcement of speed limits on roads for transport and access, and the limitation of off-road travel, will limit to the greatest extent practicable the possibility of additional fugitive dust emissions, as well as public safety hazards. Those employees whose jobs involve driving, as well as transport contractors, will be informed of the safety rules and that driving outside the established roads is not allowed. Instructions on driving safety and compliance with speed limits will be included in the new employee orientation and annual training, as well as in task training for a specific task. This aspect is further developed in the Traffic Management Plan.

- Combustion mitigation measures

Combustion emissions will be reduced in the Project in the following ways:

- The use of modern, energy-efficient electrical equipment and mobile plants with fuel-efficient engines;
- Use of exhaust gas control equipment. Exhaust gas controls on mobile equipment must be properly installed, installed, maintained and, if necessary, replaced over the life of the equipment. Procurement of up-to-date equipment with emission controls and proper operation, maintenance of equipment will reduce combustion emissions to acceptable levels for vehicles and generators, as well as enable more efficient operation of equipment and increase its service life.

- Nuisance mitigation measures

To reduce the impacts of odors, wastewater treatment and waste storage facilities will be operated properly and monitored for operational results, including odors.

- The design facilities will include appropriate waste storage and handling procedures; and
- Wastewater treatment plants will operate properly and will be monitored for operational performance, including odors.
- Moderate moistening of surfaces for the disposal of waste materials generated during excavation as well as during ore processing, especially in the summer months.

4.3. Other Effects on Air Quality

Without proper mitigation, dust and fine particles can have a moderate negative impact on employees and sensitive receptors in the immediate vicinity of the site (people located near project roads and neighboring habitats). Therefore, the Plan will be implemented to reduce unpleasant dust emissions and control fine particles. With appropriate mitigation measures, the impact on flora, employees and human receptors is thought to be negligible to minor in both the short and long term.

With proper management of drainage and waste management facilities, unpleasant odour-related impacts are considered negligible and not significantas little rotting waste will be produced. With appropriate mitigation measures, the residual impact is considered negligible in both the short and long term for all susceptible receptors.

Table 7. It is a summary of the expected impacts on air quality, the relevant operational phase and the planned mitigation measures.

Table 7: Summary of the impact on air quality

Influence	Mining phase	Impact before mitigation	Key actions	Other influences
Fugitive dust and PM10 emissions from earthworks, loading, freight transport, crushing	Building	Lesser	• Enforce speed limits for heavy equipment and general traffic on unpaved roads. • Limit off-road travel unless necessary. • Limit the number of journeys with efficient loading procedures for transporting materials. • Apply stabilizing agents to areas of high dust. • Keep the surface of dusty material on trucks moist. • Spray unpaved roads and traffic areas with water. • Maintain sand on unpaved roads and traffic areas. • Install dust suppression/control equipment for loading/unloading, storage and material transfer points. • Shredder installed in a purpose-built building.	Negligible
	Operations	Less/moderate	• All of the above mitigation measures. • Use personal protective equipment where necessary and professional medical supervision. • Secure portions of hard surface road near residential sites and along a portion of road within/near mountain meadows and hydrophilic high habitats of herbaceous vegetation.	Slightly
	Closure	Less	• All of the above mitigation measures.	Slightly
Combustion emissions from engines(mobile lined and other vehicles) Shows	Building Operations Closure	Less	• Enforce speed limits for heavy equipment and traffic in general on unpaved roads. • Train operators and train drivers should be informed about the maximum idle time. • Install appropriate emission control equipment on vehicles. • Regular maintenance and inspection of vehicles and mobile equipment, including their emission control systems.	Slightly
Unpleasant odors	Operations	Less	• Use appropriate waste reduction and recycling procedures to minimise waste. • Include appropriate waste handling and storage procedures, in accordance with the Waste Management Plan. • Proper management of wastewater treatment plants and monitoring of operational performance (including odors).	Slightly

5. Greenhouse Gas Mitigation Measures and Residual Impacts

In 2021, AMBH installed 32.4 kWp solar panels on the roof of the Administration Building, which reduces the consumption of electricity from the public grid. By using energy from renewable sources, in this case from the solar panels of the Administration Building, AMBH saves about 30 tCO2e per year.

AMBH plans to install a solar power plant at all facilities of the Ore Processing Plant, which will further reduce the CO2 footprint. Also, additional opportunities for the use of energy from renewable sources will be found, in order to reduce the carbon footprint and relieve the burden on the public grid.

A Streamlined Energy Carbon Report (SECR) was also prepared with data on Scope 1 and Scope 2 emissions, i.e. data on the consumption of electricity, fuel and other factors belonging to Scope 1 and Scope 2 emissions, on the basis of which a report on the annual CO2 footprint was made. Table 8 below shows the carbon footprint by year.

There is a noticeable increase as the Project progressed through phases, with AMBH also working on compensations or compensations, which reduced the carbon footprint. The way to collect data for SECR is to use monthly bills, keeping monthly internal records of spending by location.

Table 8. Overview of Annual Carbon Footprint Reporting

	Scope 1	Scope 2	Total
2021	119.6 tCO2e	162.9 tCO2e	282.5 tCO2e
2022	965.8 tCO2e	303.3 tCO2e	1,269.1 tCO2e
2023	2.256 tCO2e	192 tCO2e	2.448 tCO2e

In cooperation with the British company "Alfa Energy", the following documents were also drafted:

- **TCFD – Task Force on Climate – Related Financial Disclosures** : its purpose is to help AMBH report transparently on how climate risks and opportunities affect operations, financial condition and results. TCFD provides a framework with a focus on four areas:
  1. Governance – How an organization manages climate-related risks and opportunities.
  2. Strategy - How climate change affects business strategy and financial plans.

3. Risk Management – How an organization identifies, assesses, and manages climate-related risks.
4. Measurement and Reporting – How an organization measures and reports on the impact of climate change on financial results.

For review of this document, a copy has been archived at the Sustainability Department.

- **Life Cycle Assessment** (LCA): a study to internally assess economic and environmental aspects and find solutions to optimize environmental impact and costs. The study offers suggestions on how and where to reduce costs and environmental impacts through the different phases of the Project lifecycle. For LCA, the functional unit as 1 kilogram of silver, lead and zinc is adopted. Environmental impacts and cost implications are expressed per kilogram of silver, lead and zinc. The limit of the study is "cradle to grave" for zinc, while for silver and lead it is "cradle to neck". These include underground mining, transportation, ore processing, tailings processing, and overall transportation. In addition, for zinc, the boundaries also extend to transport to customers, the processing of zinc concentrate, the use phase of zinc products and end-of-life treatment. A document with details is available from the Sustainability Department.
- **NET Zero report** : A document that is being prepared to show progress towards achieving the goal of "zero" greenhouse gas emissions. "Net Zero" means that the amount of greenhouse gas emissions an organization generates is equated to the amount it removes from the atmosphere, resulting in net emissions that are equal to zero. Adriatic Metals has set an internal target to reduce emissions by 42% by 2030, starting with 2022 as the base year.
  For NET Zero, for the reduction of Scope 1 and Scope 2 emissions in a mining company, the following has been proposed:
  1. Transition to renewable energy sources: Investing in renewable energy sources, such as solar, wind or hydropower, to replace or supplement fossil fuels based on mining operations.
  2. Energy efficiency measures: Implement energy-efficient technologies and practices during the mining and processing operation to reduce energy consumption.
  3. Electrification of equipment: Switching from diesel-powered equipment to electric machinery, which would reduce on-site emissions, especially in underground mining.
  4. Carbon capture and storage (CCS): Exploring carbon capture solutions to store emissions generated by mining processes.
  5. Fuel switching: Switching to cleaner fuels or low-emission alternatives for mining vehicles and equipment.
  6. Sustainable transportation: Encouraging car-sharing, the use of electric vehicles, or other sustainable transportation options for commuting employees (van, bus).
  7. Energy Management Systems: Implementation of an advanced energy management system to monitor and optimize energy use, reducing emissions.

8. Improving waste management: Improve waste management practices to reduce emissions from waste disposal and storage.
9. Procurement strategies: Selecting suppliers and contractors who are committed to reducing emissions in their operations, reducing indirect emissions as well.
10. Monitoring and reporting: Continuous monitoring of emissions data and reporting on progress towards emission reduction targets.

Document available from the Sustainability Department.

Greenhouse gas emissions have already been reduced by designing the Project as follows:

- Reduction or restriction of land in the Project Area;
- Reduction of tree felling (removal of trees only that must be removed for safety reasons above the transport road or in the area of the mine);
- Providing improved building insulation for buildings to reduce heat loss as well as reduce the impact of noise;
- The use of modern, energy-efficient electrical equipment and mobile gears with fuel-efficient engines.
- Solar panels with a power of 32.4kWp are installed on the roof of the administrative building. According to the application that monitors the operation of solar panels, for a monitoring period of one year, the savings are 30.8 tco2e.
- A detailed energy audit was made with measurements for the existing Administrative Building, which ultimately defined measures for the energy efficiency of the building itself, and the reduction of greenhouse gases through the reduction of energy needs (through a more efficient system of heating, lighting, ventilation and insulation). The measurements and analyses that were carried out for the preparation of a detailed energy audit are:
    - Analysis of the construction characteristics of the building
    - Analysis of the thermal characteristics of the building envelope
    - Analysis of all thermotechnical systems present in the building
    - Review and analysis of data on the consumption of heat, electricity, water for an optimal 36 months
    - Calculations in terms of heat transfer, maximum surface humidity, internal condensation, calculation of dynamic thermal characteristics
    - Calculation of the required heat for heating and cooling
    - Assessing energy efficiency and identifying energy-saving measures
    - Measurement of air permeability
    - Blower door test
    - Thermal imaging
    - Measuring the illumination of the space and
    - Preparation of a detailed energy audit with techno-economic analysis for proposed energy efficiency (EE) improvement measures.

Table 9. It presents a summary of the expected impacts of greenhouse gases and planned mitigation measures. It is confirmed that, although the main impact is related to greenhouse gas emissions, their contribution to climate change, the Vareš Project is one of the countless human resources that affect greenhouse gas emissions and contribute to climate change, and the projected changes in local, regional and global climate cannot be attributed with certainty to the said project.

Table 9: Summary of mitigation measures and other impacts

Influence	Mining phase	Impact before mitigation	Key actions	The Rest of the Influences
Greenhouse gas emissions from on-site power generation, stationary and mobile power plants on the ground, emissions from explosives, tree felling and vegetation clearance, and the use of imported electricity from the grid.	All stages	Significant adverse reactions (in absolute terms – 3,753.61 1kgCO2e) Neutral (in relative terms compared to average global emissions for gold and silver recovery)	Energy efficiency measures built into engineering design. Require the use of a modern, energy-efficient mobile drive. Carry out logistical management of cargo transport and excavation activities in order to minimise idling and double handling Regular maintenance of the mobile plant. Installation of 32.4kWp solar panels on the administrative building. Seek additional options to reduce greenhouse gas emissions throughout the lifecycle of the Project, including considering additional options for renewable energy. During detailed design, energy-intensive uses such as a crusher plant for energy efficiency capabilities will be evaluated.	Significant adverse reactions (in absolute terms – less than 3,753,611kgCO 2e) Neutral (in relative terms compared to average global emissions for gold and silver recovery)

5.1. Projected physical risk of the impact of climate change on the project

In order to assess the physical risks that climate change poses to the project, the following matrix has been developed to determine what those risks are, how serious a threat they pose and any potential mitigation or adaptation that can be used to address the risks.

Table 10: Projected physical risks from the impact of climate change on the project

Climatic factor	General Impact	Affected components/substructures	Vulnerability	Adaptation
Drying the soil	The increase will affect groundwater and potentially adversely affect the underlying structures.	Increased risk of basement or subsidence ingress, water ingress, consequent damage to finishes and stored items. Soil shrinkage can lead to failure of	**Rope** Finishes are likely to be of little importance in an industrial setting, but vigilance for	Regular monitoring and maintenance of the site infrastructure will be carried out to identify early signs of failures and take corrective action.

Table 10: Projected physical risks from the impact of climate change on the project

Climatic factor	General Impact	Affected components/substructures	Vulnerability	Adaptation
		electrical, gas and water pipes, foundations and substructures.	possible physical damage should be high.	
Temperatures	Maximum and minimum changes will affect heating, cooling and air conditioning costs. The frequency of circling through the freezing point will affect the durability. The daily maximum temperature will affect the movement of thermal air.	Existing air conditioning and ventilation loads can be increased. Overheating of mechanical and electrical equipment that affects service life, reliability, and potential health and safety problems. Plastic materials will have a reduced lifespan. Construction/cladding/roofing membranes, sealants, pavements, and roads have an increased risk of cracking. Reduced capacity of overheated transmission lines (no external connection to the electrical transmission network, but overheating can be a problem even on local connections in the field). Overheating of buildings (due to increased fabric efficiency and improper implementation). Decreased labor productivity.	**Medium** Average monthly temperatures in Bosnia and Herzegovina are projected to increase by between 1 and 2oC over the next 20 years based on current warming levels (using the RCP8.5 scenario, which looks increasingly realistic). Especially in summer, temperatures could increase by as much as 3oC, which would be significant. A drier environment and potential heat waves can mean a higher risk of fire, as well as dehydration and heat stroke.	Additional air conditioning will be considered in areas where elevated temperatures may adversely affect the workforce or sensitive machinery and equipment. Ensure appropriate provisions are in place to ensure that explosive stockpiles and fuel stores are kept at safe operating temperatures. Ensure proactive procedures for monitoring and maintaining construction materials and site infrastructure. The supply of potable and non-experimental water will be increased as needed to ensure that workers and processes are sufficiently hydrated. Routinely undertake fire hazard monitoring and take active steps to eliminate possible ignition sources and fuel sources, especially in dry weather.
Relative humidity	The increase will affect condensation and associated damage or mold growth.	A wooden framed structure can be vulnerable. Interior walls, finishes and stored items.	**Low**	Surveillance will be carried out for any mold growth, which could cause health and safety problems. High humidity levels can make heat stroke more likely, so the safety of the workforce will be ensured.
Rainfall	Groundwater will be affected by the increase	Increased risk of roof failure, increased chances of flooding.	**Low**	The altitude of the VPP location creates a ground surface that falls from the

Table 10: Projected physical risks from the impact of climate change on the project

Climatic factor	General Impact	Affected components/substructures	Vulnerability	Adaptation
	and decrease; the durability and risk of water intrusion will be affected by a combination of increasing precipitation and storms.	Construction/lining/roofing membranes and sealants have an increased risk of cracking due to different moisture movements. Potential damage to the foundation and basement. Construction delays and increased costs. Increased risk of daily allowances.	Mean precipitation levels are projected to fall, although the intensity of individual events may increase. Events of higher intensity can lead to a higher risk of flooding and potentially landslides and landslides.	nearby settlements of Tisovci. Rainwater and runoff are collected by drains on this road and perimeter that flows into the Small River. The possibility of an intense thunderstorm event flooding the drainage of the site is low, since the drainage is designed for a repetition interval of 1 to 100 years. Further information can be found in the chapter on hydrology and hydrogeology in section 5.7.3.1.) A drainage system has been made on Rupice on all working platforms, and thus all contact waters are collected in the lagoon, receiving basin and then sent for wastewater treatment. Contactless waters were drained into free channels, piped in sensitive places and discharged into the Hot Stream in a controlled manner according to the permits of the competent institutions. The control of the discharge as well as the monitoring of all water is regularly monitored.
Storms	The increase will affect the need for weather tightness, the risk of water ingress, the efficiency of air conditioning, energy consumption, the risk of roof failures.	Increased risk of damage to roofs and higher risk of failure. Increased risk of material blowing and dust. Danger of damage to property or life either by direct action of the wind or through trees that burn out. Being late for work.	**Low** An initial assessment shows that average wind speeds and even maximum gusts are not expected to be a significant problem at the location.	Wind speeds will be monitored due to climate-related increases. If it is observed, appropriate measures should be taken.
Radiation	The increase may affect the need to control the sun's glare.	Window specification and glare control requirements.	**Low** Glare is unlikely to be an important	If this is found to be a problem, it would be relatively easy to retrofit the tinted trim to the glass or issue sunglasses.

Table 10: Projected physical risks from the impact of climate change on the project

Climatic factor	General Impact	Affected components/substructures	Vulnerability	Adaptation
			consideration in this situation.	
Snowfall	According to the CCKP, winter precipitation is not predicted to differ significantly from LoM, but temperatures are expected to increase by 1-2oC consistently, so this may increase the risk of flooding.		**Medium** Winter precipitation is not expected to fluctuate significantly, but warmer temperatures may mean that it is more likely to fall as rain rather than snow. If it falls as snow and then temperatures rise sharply, there may be a higher chance of flooding than snow melting.	If necessary , active measures will be implemented to reduce the risk of flooding, especially during the winter. If the risk of flooding increases, barriers will be installed at the gates for increased flood resistance. Any vulnerable electrical infrastructure will be raised to a safe height to prevent water from entering.

6. Monitoring and reporting

Air quality and GHG monitoring will be carried out to determine whether operational activities cause negative impacts on the immediate environment. The monitoring points are defined in Table 12. Monitoring and reporting are defined in Table 13.

Air quality monitoring continues to be monitored through Bergerhoff settling tanks, quarterly measurements with a mobile station and SO_2 and NOX Gradko tubes.

In the continuation of the Plan, monitoring locations are proposed, and they are selected according to the most sensitive receptors, i.e. locations that are under the direct influence of the Project. Also, primarily, the mandatory monitoring of air quality, which is defined in the Environmental Permits, was taken into account:

1. **Environmental permit** for underground exploitation and extraction of complex ore of lead, zinc, barite and accompanying mineral components in the deposit "Rupice" of the municipality of Vareš, number UPI 05/2-02-19-5-60/20 SC, dated 05.02.2021 and Decision on amendments to the decision number: UPI 05/2-02-19-5-60-2/20 dated 28.03.2023;

Table 11. Air Quality Monitoring Rupice

	The parameters that are being observed	Monitoring location	Measurement frequency
Air quality	Air quality at the location: Measurement of the concentration of $PM_{2,5}$ and PM_{10} particulate matter, total particulate matter and precipitate matter	On the southern and northern border of the circle of the "Rupice" mine	Once a year in the period from spring to early autumn, in dry and sunny weather, by hiring an authorized laboratory

2. **Environmental Permit** for the Project of Renovation of the Lead, Zinc and Barite Ore Exploitation and Processing Plant at the location Veovača I – Tisovci – Veovača II, at the site of the Municipality of Vareš, No. UPI 05/2-23-11-195/19 of 20.05.2020 and Decision on Amendments to Decision No. UPI 05/2-23-11-195/19 of 28.10.2021;

Table 12. Air quality monitoring VPP

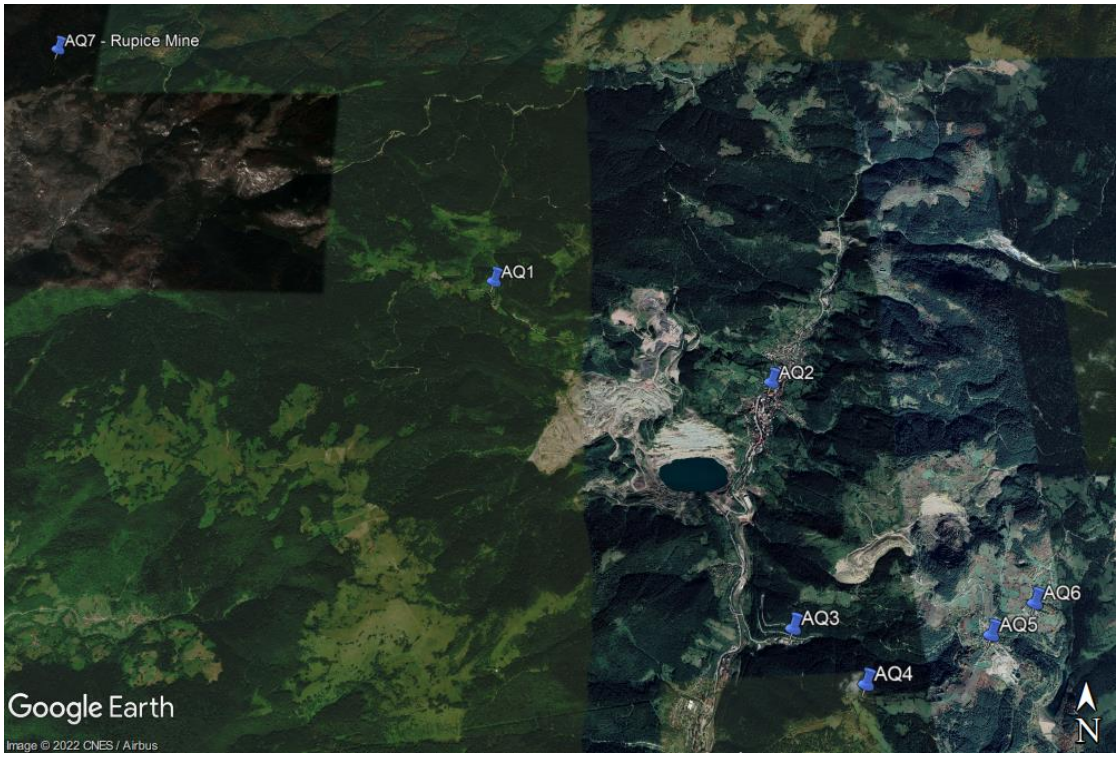
	The parameters that are being observed	Monitoring location	Measurement frequency
Air quality	Ambient air quality Measurement of the concentration of $PM_{2,5}$ and PM_{10} particulate matter, total particulate matter and precipitate matter	Location of the Veovača I – Tisovci plant, the Veovača I reservoir/tailings pond and the surrounding area near agricultural land	Measure at least once a year, during the dry period of the year. Preparation of reports on monitoring results. Monitoring is carried out during the use of the drive. Hire an authorized laboratory.

Table 13. Air quality monitoring PK Veovača

	The parameters that are being observed	Monitoring location	Measurement frequency
Air quality	Ambient air quality Measurement of the concentration of $PM_{2,5}$ and PM_{10} particulate matter, total particulate matter and precipitate matter	Within PK Veovača II, on the border of the PK circle and outside the boundaries of PK at the nearest inhabited buildings	Measure at least once a year, during the dry period of the year. Preparation of reports on monitoring results. Monitor during the use of PK Veovača II. Hire an authorized laboratory.

Table 12: Monitoring Points

Location	Location of monitoring	Coordinates	Approximate number of inhabitants	Distance	Source
Rupice north	AQ1	44.203970 N 18.232904 E	0	100m	Mine Rupice
Rupice south	AQ2	44.193400 N 18.234764 E	0	100m	Mine Rupice
Semizova Ponikva	AQ3	44.171607 N 18.294132 E	<20	50 – 200 m	Haul road
Bijelo Borje	AQ4	44.137960 N 18.334676 E	4	7-100m	Haul road & Vares Processing plant
Tisovci	AQ5	44.140860 N 18.347468 E	20	60-90m	Haul road & Vares processing plant
Pogon za preradu rude VPP (unutar kruga VPP)	AQ6	44.141025 N 18.349314 E	<30	400-800m	Vares processing plant (VPP)
Daštansko	AQ7	44.148295 N 18.370072 E	<80	1000m	Veovaca



Map 1. Air Quality Monitoring Points

In addition to these locations, additional temporary monitoring locations (at each active work site) will be included in the surveillance on a weekly basis.

Table 13: Air Quality Monitoring and Reporting

Air quality, monitoring and reporting programme and procedures			
Tracking approach	Radix	The ambient air sampling programme contains data available from 2020 to 2021 in order to determine the basic conditions at key locations within the Project permit area	
Level 2 Management Plan	The plan details mitigation measures to control dust, particulate matter and combustion gas emissions associated with mobile installations.		
Level 3 Standard Operating Procedures	The plan is based on five standard operating procedures (SOPs) that provide specific guidance on sampling locations and procedures during the construction, operation and closure phases. Level 3 procedures will include the following: • Visual inspection – routine visual inspection to identify sources of dust emissions, it will be determined that these inspection positions show the coverage of the identified dust sources, including recovery roads, crushing plant and load points. • Weather stations – location, download procedures, analysis of results and persons responsible for collecting and disseminating data. Maintenance requirements for satisfied stations will also be established together with non-compliance procedures. • Location, collection, replacement and analysis of SO_2 and NO 2 samples, to include active tube collection procedures (sample number, date, time and site reference), a procedure to ensure that pipes are not contaminated between the sampling point and the site office, and shipping procedures to an accredited laboratory. Chain of custody documentation. • Location, collection and replacement, in order to follow similar procedures as for SO2 and NO 2 sampling. • Sampling and environmental maintenance procedures for periodic monitoring of TSP, PM10 and PM2.5. • The location of the monitoring instruments will be determined by the revision of the AQGHGMP Level 2. Depending on the appropriate positions, this SOP will therefore be notified by means of a site review at the beginning of the operational phase, when the final details of the plan will be drawn up. The SOP will define monitoring requirements and equipment use periods, which will focus on areas of operation where the effectiveness of mitigation measures can be determined, thus providing feedback on the objectives and objectives of the AQGHGMP.		
Monitoring strategy			
Visual inspection	Environmental Personnel	Routine observations developed under a level system to inspect and determine whether dust control techniques are sufficient or require further action.	- Organise training for environmental personnel, shift supervisors and mine managers to develop a consistent approach to dust emissions auditing. - Regular reporting in the event of an environmental event related to the impact on air quality - Records should be kept of all exceptional events that encourage additional dust management together with the mitigation approach.

Table 13: Air Quality Monitoring and Reporting

Air quality, monitoring and reporting programme and procedures			
NOx and SOx	Gradko tube (or equipment with similar specifications for continuous monitoring)	Acrylic tubes intended for passive sampling of gases in the air. The tube contains an adsorbent material that can then be analysed by UV/visible spectrophotometry against the UKAS (United Kingdom Accreditation Service) calibration curve, which corresponds to this methodology.	The recommended length of exposure is usually in the order of a minimum of 28 days and a maximum of 32 days, after which they are removed from the sampling site and returned to an accredited laboratory for analysis. Continuous use, which is reviewed every year.
Dust	Using a Bergerhoff Dust Collector	Bergerhoff's total sediment collection device consists of a sample collection tank and a stand with a protective wire mesh, which serves to accommodate the tank and protect it from birds. The container stands on a stand for a month, and sediments and precipitation collect in it. A plastic/glass container is used as a container to collect total sediment and precipitation. Due to the fact that in winter at temperatures below 0 °C, as well as during manipulation, it may happen that the glass jar breaks, a plastic container (preferably made of polyethylene) of the same shape and dimensions is more often used. Since the efficiency of capturing the total sediment depends on the diameter of the inlet and the shape of the vessel, it is important that the same vessels are used within a single measuring grid.	A sampling container marked with the measurement point and the date of installation is placed in a rack, opened and left exposed for a period of 30 days, which means that 12 samples are collected at each measuring point in a year. At the end of the sampling period, the sample containers are collected, tightly closed and replaced with new, clean ones to collect the next sample. In an upright position, the vessels are carefully delivered to the laboratory to determine the amount of total sediment and determine the chemical composition of the total sediment.
Particles	Mobile sampling	Mobile sampling equipment designed for the measurement of particles using low-volume sampling pumps, which can also measure SO2, NOx, CO, O3, H2S.	Periodic introduction of a mobile air quality monitoring station on a quarterly basis, subject to review of results.
GHG Gas Data	Data collection	Collect data such as grid power used, generator usage, diesel consumption, etc.	For annual reporting on greenhouse gas emissions.

7. Training

A range of training programmes will be provided for project staff, as well as the sustainability team, and for relevant contractors and subcontractors. This will include training in data collection and reporting, as well as the implementation of practical measures.

Regular internal controls will be carried out to ensure that the mitigation measures outlined in this plan are applied throughout the Project.

8. Review and update

The results of the monitoring will be reported to the responsible parties to ensure that the project activities comply with national legislation and international standards.

Event reporting will be managed in accordance with the ESMS (Environmental and Society Management System) and the SEP (Stakeholder Engagement Plan). Events will be recorded, evaluated and reported. All events will be made public, in accordance with the Stakeholder Engagement Plan and the Emergency Preparedness and Response Process.

Depending on the monitoring results, the air quality and GHG plan will be reviewed and updated as necessary.