

# ENVIRONMENTAL MANAGEMENT

## Management approach

A priority strategic goal for EVRAZ is to ensure that its business operations are conducted in the most sustainable way possible. To comply with its environmental obligations and meet stakeholder expectations, the Group prioritises the mitigation of adverse environmental impacts caused by its day-to-day operations.

The environmental management approach of EVRAZ is determined by its business strategy and HSE Policy (see the Health, safety, and environment section on [page 56](#)). All enterprises in the Group adopt an environmental management system (EMS) based on the plan-do-check-act (PDCA) model. The EMS provides a framework that contributes to mitigating environmental risks and supports the organisation of the Group's environmental compliance processes. EVRAZ conducts internal audits to assess risks and evaluate its HSE management system.

The Group strives to comply with all applicable environmental requirements. EVRAZ also strictly adheres to registration, evaluation, authorisation and restriction of chemicals (REACH) regulations governing products that it supplies to or manufactures in the European Economic Area. In 2020, the Group began to update its corporate regulations concerning REACH compliance, which it plans to complete in 2021.

EVRAZ implements environmental and social impact assessments (ESIAs) for all new projects and operations. This is part of how it evaluates the potential direct and indirect impacts of its activities on local communities and the surrounding environment. It further prepares mitigation plans to limit and manage these impacts. While conducting ESIs, the Group discusses any decisions and measures to be implemented with local and regional government, business and community stakeholders throughout the project's life.

When conducting day-to-day operations, all employees are required to adhere to the EVRAZ Fundamental Environmental Requirements. These comprise procedures related to environmental control systems. They also prohibit the discharge of any chemical products and waste disposal outside designated areas.

<sup>1</sup> The figure exceeds 100% due to the recycling of previously accumulated waste.

## 2020 highlights

**Non-mining waste recycling and reuse<sup>1</sup>**

**102.7%**

**Reduction in total air pollutant emissions**

**3.7%**

## Environmental strategy

To ensure environmental compliance and mitigate any potential adverse environmental impacts, EVRAZ has elaborated and is constantly improving its environmental strategy. It is based on sustainable business practices and environmental principles, which are incorporated into all stages of the Group's value chain.

In 2017, EVRAZ set five-year environmental goals in three areas: water, waste and GHG emissions. In 2020, the Group accomplished these water and waste goals (for GHG emissions, see the Climate and energy section on [page 64-67](#)).

Goal	Result in 2020
To maintain an intensity ratio of less than two tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e) per tonne of crude steel cast.	Achieved level of 1.97 tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e) per tonne of crude steel cast.
Reduce water consumption to 207 million cubic metres	Reduced water consumption to 206 million cubic metres
Recycle 95% of non-mining waste and by-products	Recycled 102.7% <sup>1</sup> of non-mining waste and by-products

In 2020, EVRAZ updated the environmental strategy and developed two scenarios related to the level of impacts and capital investments: realistic and stressful. To meet the expectations of investors and society, the Group has also set new goals for the period up to 2030.

Using 2019 as the baseline year, they cover four aspects: water, waste, air emissions and GHG indicators (for more details, see the Climate and energy section on [page 64-67](#)). EVRAZ set the following new goals with the realistic scenario in mind.

Area	Goal (2019–2030)	2020 status
<b>Water</b>	Zero water discharge from steel production	<b>68.6 million cubic metres</b>
<b>Waste</b>	Utilise 95% of waste from metal production and general waste	<b>102.7%</b>
	Recycle 50% of mining waste	<b>28.5%</b>
<b>Air emissions</b>	Reduce total atmospheric emissions from steel production by 33%	<b>3.7% decrease</b>
	Reduce dust emissions from coal mining by 1.5 times	<b>10.0% decrease</b>

Within the new strategy the Group also aims to ensure full regulatory compliance and transparent data measurements by 2025. To enhance the disclosure of information

regarding its environmental strategy, the Group also updated its environmental reporting procedures during the reporting period.

To maintain a high level of environmental awareness and competence among employees, the Group provides training on waste management methods, HSE practices and other topics. In 2020, due to the COVID-19 pandemic, most of these trainings were held in an online format.

In 2020, EVRAZ spent US\$56.95 million on projects to improve its environmental performance and US\$32.87 million on measures to ensure environmental compliance. There were no significant environmental incidents or material environmental claims involving the Group's assets during the reporting period. Non-compliance related environmental levies and penalties totaled US\$3.1 million (US\$5 million in 2019).

The Group has committed to implement various environmental protection programmes over 2021–26. As of 31 December 2020, the estimated cost to implement these programmes totaled US\$226.2 million, compared with US\$198.6 million as of 31 December 2019. The rising environmental commitments is mainly related to renewal of obligations under the Wastewater Management programs of steel production sites to implement "zero water discharge" goal.

### Lowering air emissions

EVRAZ understands that its growing business activities produce air emissions. The Group does its utmost to reduce them, as well as to mitigate any potential impacts on human health and the environment. This includes implementing best available technologies and regularly upgrading equipment. EVRAZ also continuously monitors all emissions to minimise the risk of breaching acceptable limits. Key emissions include sulphur oxide (SO<sub>x</sub>), nitrogen oxide (NO<sub>x</sub>), volatile organic compounds (VOCs) and particulate matter (dust). In 2020, total key air emissions fell by 5% year-on-year.

To attain these goals, the Group undertakes various activities and investments, including those within the scope of the Clean Air project.

EVRAZ total air emissions (including key emissions), 2018–2020, kt



EVRAZ key air emissions, 2018–2020, kt



## Clean Air project

EVRAZ has continued to implement the Clean Air federal project, which forms part of the Environment national project. As part of the Clean Air project, the Group undertook significant measures in 2020 to improve gas purification systems at EVRAZ NTMK. These included overhauling blast furnace No. 6, a modern facility in Russia that has aspiration units containing 34,560 filters to collect and purify air. The new system more than doubled the efficiency of the facility's gas cleaning system. The project required total investments of US\$176 million,

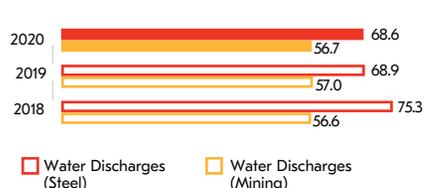
including US\$10.7 million to modernise the aspiration units.

The Clean Air project also involved modernising the electrostatic precipitators at EVRAZ ZSMK's boilers Nos. 7 and 8, as well as commissioning boiler No. 10. The electrostatic precipitators purify flue gases from ash when burning coal in boilers. As a result, annual dust emissions into the atmosphere of Novokuznetsk will be reduced by 10 thousand tonnes. During the past three years, the Group invested a total of US\$8.4 million in this project.

EVRAZ fresh water intake for production needs, 2018–2020, million cubic metres



Total water discharge, million cubic metres



## Zero discharge

In 2020, the Group continued its efforts to reduce adverse water-related impacts on the environment. As part of this programme, EVRAZ ZSMK began to construct new wastewater treatment facilities. These measures will halt water discharges into Lake Uzkoe, in line with the goal set forth in the environmental strategy. Treated wastewater will be used for production needs.

The project includes multi-stage wastewater treatment to ensure that no threshold limit for pollutants will be exceeded. The estimated capacity of the project's treatment units is 600 cubic metres per hour. The project is scheduled for completion at the end of 2022.

## Balancing water supply

Mining and steelmaking operations use significant volumes of water. To ensure the rational use of water resources and prevent water-related adverse impacts, EVRAZ strives to implement efficient water management methods to handle both mine water and fresh water.

Most of the Group's business operations do not take place in water-stressed regions. EVRAZ uses fresh water from surface water bodies, groundwater wells and public water networks for production processes, equipment cooling, fire safety, drinking and household purposes. Almost 95% of total fresh water intake for production needs occurs at major steel factories: EVRAZ NTMK, EVRAZ KGOK, and EVRAZ ZSMK (including Evrazruda). Around 90% of these factories' fresh water intake is covered by surface water, including from rivers, lakes and reservoirs. In 2020, the total water consumption at these sites was 205.7 million cubic metres, of which fresh water accounted for more than 95.2%. The total volume of fresh water consumed for production purposes was 206.2 million cubic metres, an increase of 0.9 million cubic metres year-on-year.

For safety reasons, the Group also pumps mine water (quarry water) out of mines and open pits at its coal and ore mining sites. Mine water is produced when ground water of various horizons mixes and interacts with mine atmosphere and rocks uncovered by mining excavations. Unfortunately, it is not possible to fully control or forecast the volume of this water because it depends on natural processes. While EVRAZ strives to use mine water for production needs instead of fresh water, the volume of such water exceeds what the mining assets can consume. The majority of mines are also located in remote areas that exclude any possibility of delivering surplus water to other consumers. In 2020, the Group used 24.3 million cubic metres (or 34.6%) of mine water for production needs instead of fresh water. The remaining volume of 45.8 million cubic metres (65.4%) was discharged into water bodies. In line with the water-related goal established in the environmental strategy, EVRAZ treats mine water to remove pollutants introduced during mining.

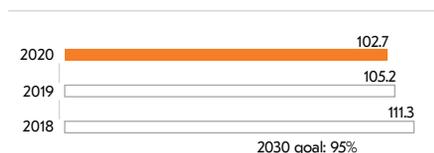
## Waste management strategy

<b>Minimise at the source</b>	<ul style="list-style-type: none"> <li>• Improve technological processes to enhance product quality.</li> <li>• Secure by-products without generating waste.</li> </ul>
<b>Reuse</b>	<ul style="list-style-type: none"> <li>• Reuse main types of waste from metal production: slag, clinker and tailings, including from old dumps.</li> </ul>
<b>Recycle</b>	<ul style="list-style-type: none"> <li>• Develop new products that feature various types of waste.</li> <li>• Use inert waste to reshape land plots and build dams or roads.</li> </ul>
<b>Burn as fuel / generate heat</b>	<ul style="list-style-type: none"> <li>• Generate heat from hot slag.</li> <li>• Use waste for heating (local boilers).</li> </ul>
<b>Store</b>	<ul style="list-style-type: none"> <li>• Store waste that cannot be used today safely, retaining the option of using the locations as industrial sites in the future.</li> </ul>
<b>Burn</b>	<ul style="list-style-type: none"> <li>• Under the EVRAZ Fundamental Environmental Requirements, it is forbidden to: "burn production and consumption waste without special facilities or dump it outside designated areas".</li> </ul>

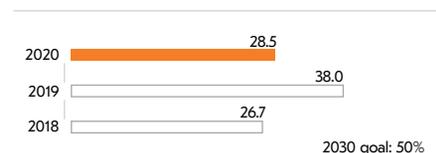
EVRAZ mining and non-mining waste generated, 2018–2020, million tonnes

Waste type	2018	2019	2020
Non-mining waste	79	8.4	8.7
Mining waste	232.0	198.8	135.6

Non-mining waste recycling and reuse rate<sup>1</sup>, 2018–2020, %



Mining waste recycling and reuse rate, 2018–2020, %



<sup>1</sup> The recycling and reuse rate exceeds 100% due to the recycling of previously accumulated waste.

The Group strictly adheres to legal requirements related to water discharges. In 2020, the total volume of water discharged was 125.3 million cubic metres, a reduction of 0.6 million cubic metres year-on-year.

## Waste stewardship

EVRAZ recognises that its business activities generate large volumes of waste, including from metal production and general (non-mining) waste. They also produce mining waste, such as overburden, tailings and barren rock. The Group endeavours to apply effective management practices in this area to ensure the rational use of natural resources and reduce waste generation. The waste management strategy includes the following priorities, listed in order of importance.

In 2020, the total volume of non-mining waste and by-products that EVRAZ enterprises generated was 8.7 million tonnes.

In line with the environmental strategy, the Group seeks to increase the amounts of waste that it recycles and reuses. In 2020, it reused 48.9 million tonnes of waste (including mining waste). Where possible, EVRAZ uses non-hazardous mining waste for land rehabilitation purposes, as well as to build dams and roads. In 2020, 38.6 million tonnes of this waste were reused.

EVRAZ stores waste from metal production at tailings storage facilities (TSFs), in keeping with standard industry practices. The Group has three TSFs in operation at EVRAZ ZSMK and EVRAZ KGOK. The safety of TSFs is a top priority, as their operation entails significant environmental risks. EVRAZ has a dam safety management system that ensures compliance with applicable legislation covering all stages of their service life: design, construction, operation and closure. The Group also conducts continual safety monitoring, and its TSFs are regularly audited by internal and external specialists, as well as inspectors from regulatory bodies.

## Protecting biodiversity

EVRAZ has a responsibility to protect biodiversity and local species, as well as their habitats. The Group assesses biodiversity related impacts during all stages of implementing mining and steelmaking projects. No EVRAZ assets are located in protected natural areas or territories with a high biodiversity value. In addition, the Group's activities do not directly impact biodiversity.

EVRAZ strives to promote a rational and prudent attitude towards biodiversity and enhancing the living environments of its employees. The Group also actively engages with local communities on biodiversity related issues.

The Group's environmental initiatives include planting trees in parks and public squares, along town/city streets and in the territory around kindergartens. The Group planted around 7,000 trees during the year.

## Rehabilitating disturbed land and landscaping

To restore land disturbed by mining and steelmaking operations, EVRAZ implements environmental projects aimed

at rehabilitating affected areas. In 2020, the Group completed a reclamation project for tailings storage facility No. 2 at Evrazruda (EVRAZ ZSMK).

## Restoring aquatic biodiversity

The Group's approach to biodiversity includes striving to preserve the quality of water ecosystems and supporting existing biodiversity. EVRAZ regularly releases various species of fish into affected water bodies to offset any potential impacts on bioresources. In 2020, the Group's assets released more than 204 thousand fingerlings in Kemerovo region.

## Outlook for 2021

In 2021, EVRAZ will continue its efforts to mitigate any adverse impacts, as well as to preserve and enhance surrounding environments. Going forward, the Group plans to review its HSE Policy and REACH regulations. EVRAZ will remain committed to implementing measures under the Clean Air national project.

The Group will also continue to implement its air emission reduction programme, which includes the following key projects.

Project	2021 task
<b>EVRAZ ZSMK</b>	
Coke gas cooling system upgrade	Complete the design stage
Off-gas desulphurisation installation	Complete the design stage (in progress since 2019)
<b>EVRAZ NTMK</b>	
Coke gas redirection to by-product recovery plant No. 3	Continue the project (to be completed by 2022)
Efficiency upgrades of off-gas cleaning units	Continue the project (to be completed by 2024)
Decommissioning of coke oven gas cooling tower	Continue the project (to be completed by 2022)
<b>EVRAZ Vanady-Tula</b>	
Kiln off-gas system upgrade	Complete the project

In 2021, the Group will also continue to implement the water management programmes launched in previous periods, including at EVRAZ ZSMK, EVRAZ NTMK,

Raspadskaya and EVRAZ Vanady-Tula. In addition, Raspadskaya will continue to construct wastewater treatment facilities.