

WATER

GRI 303-2, 303-5

Water is a vital component of our operations. To manage the mine water and fresh water rationally and sustainably, we strive to use the most effective water management methods and best practices. EVRAZ has invested a concerted effort to decrease water usage as part of its commitment to health, safety, and the environment. Water-related goals and tasks are addressed by our HSE Policy, which includes the Board of Directors dealing with water risk management challenges, among other responsibilities set out for the executive management. As regards the environmental water-related concerns, EVRAZ is a member of the Russian


Union of Industrialists and Entrepreneurs (RSPP). We make significant efforts to treat our effluents in order to reduce our reliance on fresh water.

The mining and steel industries require significant amounts of water. As part of our climate risk assessment, we have recognised that circular water use within our facilities enables us to manage physical risks like water scarcity, droughts and the increasing frequency of extreme weather events.

GRI 303-1

The majority of the Group's activities are not located in water scarcity areas. Any significant risks to the availability of water resources, but it is our goal to minimise any possible negative effects our activities may have on the environment by lowering water intake. The water we take comes from surface water bodies, groundwater wells, and public water networks, and is used for a variety of functions.

Our primary water-related operations are:



Mining operations




Production processes




Equipment and ventilation cooling demands



Fire safety



Offices, workshop, laboratories



Drinking needs



Most of the overall fresh water intake for manufacturing purposes is related to three major steel mills: EVRAZ NTMK, EVRAZ KGOK, and EVRAZ ZSMK (including Evrazruda). Surface water, such as that from rivers, lakes, and reservoirs, accounts for around 90% of these industries' fresh water intake. Total fresh water consumption for production purposes was 196.22 million m³, which is 6.56 million m³ less than in 2020.

EVRAZ fresh water intake for production needs¹, 2019–21, million m³

GRI 303–3



The Group strictly complies with all applicable legislation on water discharges. Total volume of water discharged in 2021 was 121.49 million m³, which is 3.77 million m³ less than in 2020.

Water consumption by sources, EVRAZ total and by segments², 2021, %

GRI 303–3



- Surface water sources
- Ground water
- Public network
- Other sources

At our coal and ore mining sites, we also pump mine water (quarry water) for safety purposes. Mine water is generated when groundwater from several aquifers mixes and interacts with the air in the mine area and exposed rocks during mining

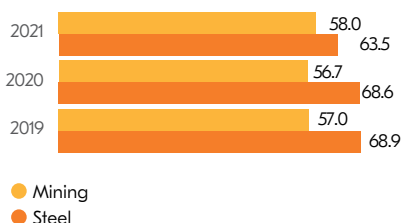
excavations. As this water is a natural phenomenon we cannot totally regulate or estimate its volume. Despite our efforts to utilise mine water for production instead of fresh water, our mining assets require less water amount than the one available with us. There is no way to distribute excess water to other consumers as most of our mines are located in remote areas. In 2021, we used 20.6 million m³ (31.9%) of mine water instead of fresh water. The remaining volume, 43.9 million m³ (68.1%) of the total amount was dumped in bodies of water. Our water-related Environmental strategy goal specifies that mine water is treated to remove pollutants occurred during mining.

Water discharge regulations are rigorously enforced at our facility. There was a 3.8 million m³ decrease in the volume of water discharged in 2021, to 121.5 million m³, compared with 125.3 million m³ in 2020. It is part of the EVRAZ Environmental policy to limit the amount of water discharged, which helps to reduce water intensity. Mine water discharge cannot be controlled, as previously stated, due to the necessity of pumping groundwater out of mines in order to ensure workers' safety. The water discharge intensity for steel production was 4.68 m³ per tonne of crude steel cast.

We also focus on industry median when planning our water discharges reduction measures.

Total water discharged³, million m³

GRI 303-4



Water discharge intensity (steel segment, including North America), 2019–2021, m³ per tonne of crude steel cast

GRI 303–4



EVRAZ fresh water withdrawal intensity, 2019–2021, m³/US\$ thousand revenue

SASB EM-MM-140a.1



Fresh water withdrawal intensity, 2019–2021, m³ per tonne of crude steel cast



In 2021, we were seeking the ways to cut back on water withdrawals at our sites while still moving forward with other initiatives that have already been identified for implementation. To meet our water-related goals and tasks, this will enable us to reduce our overall consumption while also improving our efficiency.

1. The indicator "Data for total fresh water intake for production needs" in the current Report differs from the data in the Sustainability Report 2020 due to the following reasons: the volume of fresh water for enterprise needs mistakenly included recycled water, which is used by Kuznetskaya CPP for production needs, and the volumes of recycled.
2. Data presented without mine and quarry water. For the purpose of disclosing fresh water consumption the Steel segment is represented by EVRAZ ZSMK and EVRAZ NTMK only, while the Other sources section includes EVRAZ KGOK, Evrazruda, EVRAZ Vanady Tula, EVRAZ Nikom and EVRAZ Caspian Steel. Mining assets are not included in Steel segment as they produce effluents of quarry and mine water, that EVRAZ cannot reduce due to factors of their natural origin.
3. Water discharges during mining activities (effluents of quarry and mine water) are shown separately, as EVRAZ cannot reduce these discharges due to their natural origin factors.

CASE STUDY

ZERO DISCHARGE

EVRAZ implements measures to mitigate water-related risks across its assets. In 2021, EVRAZ ZSMK completed the first stage of the circulating water supply system modernisation project. Specific equipment was installed to remove impurities and petroleum products from wastewater at this stage.

The implementation of the second stage is planned for 2022 and will comprise the installation of filters. The project is expected to be completed in 2023. As a result, it will be possible to end the discharge of wastewater into Lake Uzkoe and to use treated water in production.

EVRAZ NTMK continued to carry out the project to convert to a closed water supply cycle. Throughout the year, water protection equipment was repaired, including the cooling towers, conduits, and filters, as well as certain work was done to clean the settling tanks of the rolling shops' mixed circulation cycle.

THE WATER TREATMENT FACILITIES AT MINE «ALARDINSKAYA»

The water treatment facilities of Rospadskaya Coal Company that controls the EVRAZ coal assets were upgraded in 2021 at Mine «Alardinskaya». The project cost is US\$3.87 million allocated by the Company for implementation. A large-scale reconstruction was carried out at the facility for the first time and lasted for almost three years. The amount of water treated increased nearly threefold, from 550 m³ to 1,380 m³ per hour after the work was completed at the pumping and filtering station.

The volume of discharges into water bodies and rivers has been reduced by 40% in the last three years as a result of the installation of modern treatment facilities.

Mine «Alardinskaya»'s wastewater and mine water treatment is based on the patented DIKLAR dynamic clarifier technology. Water from the drainage system enters the disinfection tank after being treated with reagents and cleaned on clarifiers to remove mechanical and colloidal pollutants. Part of this water is used for the mine's technological needs.

BIOTECHNOLOGIES IN WATER PURIFICATION

EVRAZ ZSMK conducted experimental tests for the rehabilitation of the Konobenikha River by planting water hyacinths in the hydroash removal pond. These natural filters are a great alternative to wastewater treatment plants. In a few months, plants can completely purify and restore the water in a pond. EVRAZ ZSMK is implementing a large-scale environmental programme that, among other things, includes projects to reduce and prevent the discharge of pollutants into water bodies.

At EVRAZ NTMK additional purification of water was carried out using biotechnologies:

- higher aquatic plants eichhornia and pistia, which are natural biological filters, were planted in clarifier ponds
- chlorella microalgae was released, which saturates water with oxygen, removes organic and inorganic substances and enriches water with nutrients