## HEALTH, SAFETY AND ENVIRONMENT

#### Our approach

#### **HSE** management systems

Preserving the life and health of employees and protecting the environment during our daily operations is an absolute priority for EVRAZ. The Company operates HSE management systems to mitigate the associated risks in its operations. The Group adheres to international best practices in HSE. While international certification of the HSE management systems is not a legal requirement, most EVRAZ facilities are certified as compliant with the requirements of the OHSAS 18001/ ISO 45001 occupational health and safety management and ISO 14001 environmental management standards. EVRAZ is currently aligning the occupational health and safety management system for relevant facilities to certify them under ISO 45001 as the validity period of OHSAS 18001 expires.

The Group recognises that the engagement of senior executives in the HSE management process is a crucial element in the plan to enhance the effectiveness and improve the functionality of its HSE management systems. HSE issues are considered at every corporate level,

### HSE GOVERNANCE STRUCTURE



1. Appointed in January 2022



including our line and senior management. To bolster our HSE management systems and foster a safety culture, in 2021, EVRAZ established two governing bodies within its organisational structure.

In December 2021, the Board of Directors transformed HSE Committee into the Sustainability Committee. It plays a key role in managing HSE issues at the Board level and is responsible for setting the Company's strategy in this area.

In August 2021, EVRAZ established a Sustainability Management Committee at the executive level. The Group's corporate strategy and performance management vice president chairs the committee and the CEO and heads of business units regularly attend its meetings. The committee's tasks include driving improvements in the safety culture by setting and revising relevant goals and approving annual KPIs for line managers. At the level of the Group's enterprises, local HSE departments supervise HSE issues.

EVRAZ actively engages with industry associations on matters related to occupational health and industrial safety, such as the World Steel Association's Safety and Health Committee, as well as the HSE committees of Russian Steel (a Russiabased non-commercial partnership) and the Russian Union of Industrialists and Entrepreneurs. We evaluate and formulate proposals on various legislative initiatives and work to develop a common position among the associations' members.

#### **HSE documents**

The EVRAZ HSE Policy is the fundamental document regulating issues of environmental matters, including climate change, issues related to biodiversity, occupational health and safety and the involvement of contractors in safety processes. The policy formalises the basic principles that the Group has set for itself, as well as the commitments that have been made. The Company's policy is regularly reviewed, the last changes were made to it in 2021. EVRAZ strives to comply with all requirements of labour protection legislation and internal Company rules. The Company operates in accordance with technical regulations, as well as the following documents governing labour protection:

- HSE Policy.
- Cardinal Safety Rules.
- Fundamental Environmental Requirements.
- Standard Incident Reporting Rules.

In 2021, the number of corporate HSE documents was revised and amended. Some changes were made to the Standard Incident Reporting Rules. The Cardinal Safety Rules were also updated and a new lockout, tagout (LOTO) procedure was added that prohibits working without applying safety locks.

#### Climate risk governance

Issues related to climate change are handled by the Board of Directors and are considered at regular Board and Sustainability Committee meetings.

At the executive level, the Sustainability Management Committee also considers issues related to climate change and decarbonisation.



RESPONSIBLE BODY	CLIMATE-RELATED RESPONSIBILITIES
Board of Directors (BoD)	<ul> <li>The BoD oversees the process of identifying and managing climate-related risks and opportunities and approves the Group's risk appetite.</li> <li>The BoD's agenda includes matters related to climate change, such as governance, strategy, risk management and environmental targets.</li> <li>The BoD meets 10-12 times a year to review and guide strategic decisions, budgeting, investment decisions, including climate-related issues and the Company's progress against sustainability targets such as emissions reduction.</li> </ul>
Sustainability Committee (previously HSE Committee)	<ul> <li>The Sustainability Committee oversees group-level policies, processes and strategies designed to manage risks and opportunities related to health, safety, the environment, socio-economic issues, the supply chain and climate change.</li> <li>The committee assists the BoD in monitoring the implementation of climate-related matters and determines the strategic actions needed to respond to particular market trends, as well as the acceptable level of risk exposure to climate change.</li> <li>It meets at least four times a year at set times or as otherwise required. Members of the Sustainability Committee also makes a site-visits.</li> </ul>
Audit Committee	<ul> <li>The Audit Committee oversees the Internal Audit Directorate and monitors the implementation of climate change measures in compliance with applicable policies, plans, procedures, laws and regulations</li> <li>It supports the BoD in monitoring risk exposure against risk appetite and reviews the effectiveness of the risk management system, as it relates to climate change.</li> </ul>
Chief executive officer (CEO)	<ul> <li>The CEO has ultimate responsibility for risk management and ensures that the risk management system is well organised, covering climate-related issues.</li> <li>The CEO leads the process of developing a decarbonisation pathway and monitors the achievement of group-level climate-related targets, which are then reported to the Sustainability Committee and BoD after the CEO's approval.</li> </ul>
Sustainability Management Committee	<ul> <li>The Sustainability Management Committee oversees various issues related to climate change, including decarbonisation (involving the analysis of available technologies and options for their application), specific asset-oriented measures aimed at helping enterprises to achieve emissions goals, and analysis of automated emissions accounting systems.</li> <li>The committee is composed of the CEO, corporate strategy and performance management vice president, HSE vice president, technologies development vice president, representatives of the Risk Management Working Group, and in some cases heads of departments and production divisions, who report key findings and results to inform the committee when it takes strategic decisions.</li> <li>The committee monitors Company's sustainability performance and progress against climate-related targets and reports its findings to the CEO.</li> <li>The committee meets at least once a month.</li> </ul>
Corporate strategy and performance management (CSPM) vice president	<ul> <li>The CSPM vice president chairs the Sustainability Management Committee and is responsible for aligning its agenda with the Company's strategy, as well as sustainability and climate goals. CSPM vice president reports to the CEO.</li> </ul>
HSE vice president	<ul> <li>The HSE vice president oversees health, safety and environmental issues arising in relation to physical and transitional climate risks. The HSE vice president reports to the CEO.</li> </ul>
Technologies development vice president	<ul> <li>The technologies development vice president is responsible for the technology side of the carbon neutrality transition. Technological development vice president reports to the CEO.</li> </ul>
Energy and climate management director	• The energy and climate management director represents the Company's interests in the field of climate regulation and is responsible for:
	<ul> <li>Participating in working groups under governmental bodies, industry associations, committees and commissions.</li> </ul>
	Monitoring climate regulation and decarbonisation initiatives.
	<ul> <li>Forming the Company's position concerning climate-related issues.</li> <li>Implementing decarbonisation measures, developing an energy management system and increasing the energy efficiency of production.</li> </ul>
	The director reports all findings to the Corporate strategy and performance management (CSPM) vice president.
Environmental management director	• Support for greenhouse gas inventory methodology, data collection, consolidation and reporting.
Risk Management Working Group	<ul> <li>The Risk Management Working Group consolidates all results and plays a key role in identifying, assessing and monitoring climate-related risks and mitigation measures within the Group.</li> </ul>
HSE function and safety representatives for all EVRAZ operations	<ul> <li>The HSE function and safety representatives at the operational level implement and control activities in compliance with the Company's general strategy and the Climate Action Plan in day-to-day operations.</li> <li>They report to the division directors and management.</li> </ul>
•	



#### Occupational health and safety

## 2021 HIGHLIGHTS

Group LTIFR



## Safety culture and health and safety training

EVRAZ strives to foster a safety culture among its employees. This is made possible through ongoing occupational safety initiatives such as the Risk Management Project and the innovative Risk Hunting application. These programmes aim to encourage employees to take an increasing level of interest in their own safety. An assessment of the Risk Management Project performed in late 2021 revealed that most business unit heads consider the project an integral component of the HSE management systems. We are pleased to see our employees perceive risk management tools as a part of standard daily operations. We view this as an example of how all EVRAZ facilities are successfully implementing dynamic risk assessment measures.

We empower all employees to suspend any operation that poses a potential risk for people's health and safety. The Risk Management Project has helped to improve employee satisfaction by changing the management's perception of the right to refuse unsafe work as a risk for production process disruption. In 2021, we revised the approach to motivating safe behaviour by modifying both the criteria and process for bonus payment.

During the reporting period, EVRAZ trained its production personneland line managers under the Risk Management Project. In addition, employees of contracting organisations began to undergo risk management training with the help of specially developed internal programmes.

#### Performance in 2021

#### LTIFR

EVRAZ annually assesses working conditions in its production sites. The leading indicator that reflects the effectiveness of HSE management systems is the lost-time injury frequency rate (LTIFR).

#### Lost-time injury frequency rate<sup>1</sup>



#### **Fatalities**

EVRAZ thoroughly investigates any fatal incidents that occur at its operations and makes every effort to prevent fatalities among its employees and contractors.

#### Work-related employee fatalities



All accidents in the Company are subject to a mandatory investigation. Prompt identification of critical factors and root causes of incidents helps to identify systemic shortcomings and develop the necessary measures to minimise dangerous factors more accurately. The Sustainability Management Committee is responsible for the implementation of such initiatives, both within the Group and in individual divisions. Each initiative implemented by the Sustainability Management Committee is regularly monitored and assessed to determine its effectiveness.

Main types of high-consequence work-related injuries and fatalities (including contractors), %



- Hitting by external object
- Dropped objects
- Fire or smoke exposure
- Fall from height
- Traffic accident
- Electric shock or arc flash
- Extremal temperature exposure

1. The values of the indicator have been recalculated to include contractors and are different from those presented in the Annual report 2020 and the Sustainability report 2020.

#### Climate change and GHG emissions

## 2021 HIGHLIGHTS

**Total GHG emissions** 

MtCO<sub>2</sub>e



#### Total energy consumption

million GI

#### **Energy intensity**

#### Our approach

The Group is fully aware of the necessity of taking steps to mitigate its impact on climate change and takes continuous measures to reduce greenhouse gas emissions (GHGs). EVRAZ supports both global and national programmes and projects for combating climate change. Being a member of the World Steel Association, the Russian Steel and the UN Global Compact initiative, EVRAZ prioritises decarbonisation issues. GHG emissions management is included in the Environmental Strategy as one of the key activities and climate-related risk management is integrated into the corporate risk management system.

In its pursuit of decarbonisation, the Group focuses its efforts on maximising energy efficiency, using secondary and low carbon energy, and technical re-equipment. One crucial area is improving energy efficiency and enhancing energy management. EVRAZ has a uniform methodology for internal audits of the energy management system. Energy consumption and energy efficiency management of plants and production workshops is measured for compliance against criteria in special checklists developed according to ISO 50001.

EVRAZ follows TCFD requirements in describing risks and opportunities for the short, medium, and long term; management's role in assessing and managing climate related risks, where the Group's strategy may be affected

by climate-related risks, GHG emissions targets and methodologies used to calculate them.

Read more in on pages 54-57 in the Sustainability management section, on pages 58-70 in the Health, safety and environment section, and pages 84-96 in the Principal risks section

#### **GHG** emissions

In 2021, the Group accomplished the upgrade of the CDP (Carbon Disclosure Project) climate change rating to level C. EVRAZ achieved the result due to the increase in the scope of information disclosure and the improvement in the guality of reporting, identification and assessment of climate-related risks.

All emissions are calculated, however targets are set on specific processes. EVRAZ intends to reduce specific Scope 1 and 2 GHG emissions from steelmaking<sup>2</sup> operations by 20% and reach 75%-utilisation of methane (CH4) emitted while degassing coal mines by 2030 compared to 2019. Our goal is to achieve the GHG intensity ratio of 1.553 tCO2e/tcs (tonnes of carbon dioxide equivalent per tonne of crude steel), which complies with the Paris Agreement (PA) pledges and is calculated based on the Transition Pathway Initiative (TPI) methodology for steel producers "Carbon performance assessment of steel makers: note on methodology". To meet the goal, EVRAZ is considering promising technologies.

Read more on page 63 in the Decarbonisation pathway section

An important accomplishment for EVRAZ in reducing greenhouse gas emissions is evident in its efforts to utilise emitted methane to lessen its impact on the climate. The Group is implementing pilot projects on introducing installations for thermal utilisation of methane at the Raspadskaya Coal Company. It enables the transformation of methane into CO2 thus reducing GHG effect, since methane has a greater global warming potential and a higher impact related to the increase in average global temperatures. If the pilot projects are successful, the Group will scale them up. The Group evaluates the practicability of energy generation to improve the efficiency of methane using.

EVRAZ discloses data in tCO2e using IPCC global warming potentials for its calculations. The methodology for calculating Scope 1 and 2 GHG emissions complies with the requirements of the IPCC Guidelines for National greenhouse gas inventories and GHG Protocol Corporate Accounting and Reporting Standard. Scope 2 GHG emissions were measured using official data of Russian energy exchange. Evaluation of Scope 3 GHG emissions is in process and will be performed for all relevant categories.

In the current year, GHG emissions have decreased by 3.1%. This was a result of lower steel production at EVRAZ ZSMK, decrease of methane emissions at some coal mines, modernisation of equipment and the success of the energy efficiency policy. In 2021, the steel segment accounted for the largest part of GHG emissions (68% from EVRAZ' total GHG emissions).

<sup>1.</sup> Or 96,555.5 million kWh and 6,402.8 kWh/tcs

<sup>2.</sup> All enterprises from the steelmaking segment in North America and Russia are involved in the process of achieving this goal.

Base year (2019) results were recalculated due to the updated values of global warming potentials from the IPCC's Fifth Assessment Report and Russia's new Scope 2 emission factors. In addition, the quality of primary data gathering in the Company has improved, which resulted in the decrease of base year GHG intensity to 1.94

tCO2e/tcs vs. previously reported 1.97 tCO2e/tcs. The goal (-20%) was recalculated accordingly and reduced to 1.55 tCO2e/tcs vs previously indicated 1.58 tCO2e/tcs.

#### EVRAZ GHG emissions<sup>4</sup>, 2019-2021, million † CO<sub>2</sub>e

	2019	2020	2021
Direct (Scope 1)	40.76	41.21	40.17
Consisting of:			
CO <sub>2</sub>	28.22	28.06	27.55
CH₄	12.48	13.09	12.57
N <sub>2</sub> O	0.06	0.05	0.06
PFC and HFC	0.00002	0.00012	0.00003
SF <sub>6</sub>	—	—	—
NF <sub>3</sub>	_	_	—
Indirect (Scope 2)	2.38	2.27	1.96
Total GHG emissions	<b>43.14</b> <sup>5</sup>	<b>43.48</b> <sup>5</sup>	42.13

#### EVRAZ GHG emissions by segment in 2021, million tCO<sub>2</sub>e

Scope 1 and 2 GHG intensity from steel production (Steel and Steel, North America segments)<sup>6</sup>, tCO<sub>2</sub>e/tcs



This year it was decided to disclose one more intensity figure that better reflects performance of the steel segment and takes into account volumes of pig iron produced by steel mills and sold to 3rd parties.

#### EVRAZ Carbon intensity of GHG emissions per t, tCO2e

	2019	2020	2021
Scope 1 carbon intensity			
per tonne of crude steel and sold pig iron	1.80	1.80	1.75
per tonne of crude steel	1.85	1.87	1.82
Scope 2 carbon intensity			
per tCO2e of crude steel and sold pig iron	0.09	0.08	0.07
per tonne of crude steel	0.09	0.08	0.08
Scope 1+2 carbon intensity			
per tonne of crude steel and sold pig iron	1.88	1.88	1.83
per tonne of crude steel	1.94	1.95	1.90

#### Decarbonisation pathway

To make our business strategy more resilient to the consequences of climate change and identified climate-related risks, we continuously assess how our business may improve to become more sustainable. At the end of 2021, our risk reassessment demonstrated that climate-related issues require greater attention at the Group level due to increasing regulatory changes and increased stakeholder attention. By addressing and analysing how climate change affects our Company, we can plan and design measures to mitigate the consequences of potential issues in the future. We believe that our decarbonisation pathway shall be cost-effective. Our short-term sustainability focus is based on substantial side effects yet does not compromise our ability to create long-term value.

We have started developing a decarbonisation pathway for the Group that will be integrated into our daily operations, strategic and financial planning, which will also help us to avoid climaterelated risks and meet climate targets. Read more on pages 84-96 in Principal risks section. In the next 3-4 years, our priority will be to maximise energy efficiency and develop measures that will decrease the Group's volumes of greenhouse gas emissions in order to provide the market with reduced CO2 steel products.

4. Scope 1 data includes emissions in tonnes of carbon dioxide equivalent from the combustion of fuel and from other sources that are owned or controlled by the Company.

5. Results of 2019 were recalculated: Change of Scope 2 EFs for Russian mills (-1.91MtCO2e), data quality improvements (+0.26 MtCO2e), GWPs update acc. to AR5 (+1.43MtCO2e).

<sup>6.</sup> Tonnes of CO2 equivalent (Scope 1 and 2 GHG emissions) divided by tonnes of crude steel. Only steelmaking enterprises are included into the calculation.

## METHODOLOGY CHANGES

We have made several upgrades of our methodology in 2021:

- Global Warming Potential values for 100-year time horizon are taken from the IPCC Fifth assessment report (AR5) instead of values from the Fourth assessment report (AR4) previously used.
- Scope 2 emission factors for entities in the Russian Federation are taken from the official source of Russian energy exchange (https://www.atsenergo.ru/results/co2) which, in our opinion, reflect more realistic energy balance of the country energy systems than previously used factors from the baseline study report "Development of the electricity carbon emission factors for Russia" by EBRD&Lahmeyer (https://www.ebrd.com/downloads/sector/eecc/Baseline\_ Study\_Russia.pdf).
- Improvements in data quality which cover double-counting issues and more precise data on material flows.

In the upcoming year we'll continue to improve our methodological approach in order to align it with best practices.

In line with the international and local climate agenda, and as an element of the transition to a low-carbon economy, EVRAZ is developing a roadmap with the following initiatives, as well as a preliminary decarbonisation plan for EVRAZ ZSMK and EVRAZ NTMK to be achieved by 2060.

#### 2022-2025

- Monitor regulatory changes and launch the development of a decarbonisation strategy for the industry in consort with the state.
- Improve energy efficiency by 18% by 2025<sup>1</sup>.
- Use waste as coal and coke substitutes.
- Use of low-carbon energy purchased.
- Develop renewable energy generation on site.

2025-2035

- Increase the share of scrap and EAF.
  Examine the possibility of DRI (direct reduced iron) usage.
- Consider using alternative energy.Consider upgrading production
- facilities.

#### After 2035

- Implement CCUS (Carbon capture and utilisation/storage technology.
- Use hydrogen in the BF-BOF route and DRI.
- Practice smart carbon usage.

## OTHER ACTIVITIES COMPLETED IN 2021:

- Conducted a CO2 price forecast.
- Launched the revision of the CO2 calculation methodology. The goal is to align internal methodology with best practices and future government requirements.
- Initiated a study of a DRI usage at EVRAZ NTMK including an analysis of vanadium extraction potential.
- Testworked Timir's metallurgical iron ore (with further analysis of DRI).
- Initiated research on carbon capture and storage technologies.
- Researched alternative energy possibilities. At this point, preliminary research indicates that using solar and wind energy at EVRAZ ZSMK and EVRAZ NTMK would not be efficient enough economically.



Some of these measures should have an economic effect on the Group and foster technological advances in production:

- Implementing measures to increase energy efficiency and better utilise secondary energy resources.
- Recycling secondary waste stemming from our own production.
- Involvement in the coking charge of carbon-containing industrial and domestic waste.

EVRAZ is developing a detailed roadmap and estimated the potential decrease of tCO<sub>2</sub>e/tcs intensity. Until 2030, decarbonisation initiatives will be mainly focused on energy efficiency, technological upgrade of equipment, and higher productivity while we continue to review the economic feasibility and decarbonisation potential of other technologies

EVRAZ has already launched several initiatives in order to comply with its decarbonisation goals. It has also started researching long-term possibilities. Below are some examples of climate-related initiatives integrated into the business strategy. These should help the Group mitigate climate risks, pursue opportunities, improve resilience and stimulate innovation within its operations:

- Energy efficiency.
- Circularity of resources.
- Climate-related KPI's.
- Internal carbon price.
- Sustainable Development Training for Employees.

#### **Energy efficiency**

In December 2021, the Group developed a schedule to implement initiatives and changes for 2022-2023.

Energy efficiency measures.

Measures include increasing and capturing steam generation from the dry coke quenching plant to generate electricity, replacing an electric motor with a turbo drive at the Siberian Division and purchasing lowcarbon energy for the Group.

• Electricity generation.

EVRAZ Pueblo plans to use a 240 MW solar power plant as its primary energy resource. In partnership with Lightsource BP and Xcel Energy, the project supports the Colorado Energy Plan, helping Xcel Energy provide 55% renewable energy by 2026.

#### **Circularity of resources**

EVRAZ recognises economic trends such as the EU's green deal climate policy and clear focus on resource efficiency. Such developments directly address the increasing cost and scarceness of materials in the future, as well as the lifecycle of constituent alloys within steels. The Group is working on developing technologies and procedures to prolong the lifecycle of raw materials.

 Secondary use of carbon-containing coking waste

The Group is set to determine by end of 2022 the possibilities of involving the charge for coking carbon-containing waste and determining the potential for reducing the carbon footprint by replacing coal with other components.

• Processing CO2 into products.

EVRAZ began identifying new products from CO2 processing, energy intensity, and application possibilities. In addition, EVRAZ will assess the feasibility of CO2 entrapment with subsequent disposal/ utilisation and transfer to the Group's steelmaking facilities from hydrocarbons to methane-hydrogen fuels to reduce GHG emissions. The Group views hydrogen as a high-potential green energy source.

#### **Climate-related KPIs**

The Group is currently aligning its remuneration process with decarbonisation goals and targets. In 2022, we are planning to include climate-related and decarbonisation KPIs for the vice presidents of EVRAZ.

#### Internal carbon price

EVRAZ has set an internal carbon price to be able to more accurately budget and plan its operations within a continuously changing environment of climate regulation. The carbon price will be an additional metric during investment project assessments and mitigate regulatory risks. Currently, the methodology for establishing the metric is being revised. EVRAZ plans to disclose information upon this metric in future disclosures.

#### **Regulatory changes**

EVRAZ is assisting in developing a decarbonisation strategy for the steel industry in Russia by 2060. The project will involve all key steel producers within the Russian Steel Association.

In addition, EVRAZ interacts with government bodies to develop CO2 legislations in Russia, assist in setting up a defined system for reporting CO2 emissions in the country, and work to develop state support measures.

#### National targets

EVRAZ has considered Russia's national net zero target by 2060 while developing the decarbonisation pathway.

#### **Energy management**

All the Group's employees are involved in energy efficiency issues and practices. EVRAZ is constantly striving to improve the energy management system within the Group. One of the goals of the Group is to pass the certification procedures for compliance with the ISO 50001 requirements at the factories, and, in 2021, EVRAZ ZSMK and EVRAZ KGOK accomplished this goal. In 2021, the Group developed and approved a policy for the use of energy efficient transformers for EVRAZ. The goal of the policy is to improve activities to reduce the loss of energy resources. In 2021, a standard was developed containing requirements for the energy efficiency of the applied technical solutions when designing production facilities. The Group is aiming to organise the process of implementing the document by designers in 2022.

In 2021, the Group held many events to generate ideas in the field of improving the energy efficiency of production, such as "Energy Session" and "Growth Points. Decarbonisation". Also, EVRAZ provided educational events for employees, such as "Production energy efficiency" trainings on energy consumption and energy efficiency management and "Energy Transition 4.0" on the growing importance of climate change and environmental sustainability issues, changing public opinion and new government policies regarding climate and energy.

In 2021, EVRAZ implemented 280 energy efficiency activities, and consequently, it managed to make energy savings in the amount of 7.8 million GJ and US\$43 million. Those activities include equipment modernisation, analytics advancements and improvements of the monitoring system. In 2021, we provided inter-shop metering for energy flows worth more than US\$25 million and reduced unmetered inter-shop energy flows from 25% to 15%, which will increase the transparency of energy consumption at each stage and the ability to manage energy-intensive processes.

The installation of a gas top pressure recovery turbine at EVRAZ NTMK and the renovation of oxygen production at EVRAZ ZSMK were completed in 2021. This helped reduce energy intensity. Over the past few years, EVRAZ has been reducing total energy consumption. Sound energy efficiency policy brings tangible results. The Group manages to consistently reduce energy intensity year on year. In 2021, total energy consumption decreased by 1.3%.

The divisions implement different measures to reduce energy consumption. In Urals Division equipment was modernised for additional power generation by switching on the right flow of the left discharge duct. Also, the Group has developed digital model of the thermal power plant and compressor station. The change in the specific yield of gross coke due to baking allowed saving a large amount of money and energy. The air heater was replaced with an additional stage of the water economiser on the steam boiler.

The Siberia Division increased the efficiency of vacuum filters due to the use of a dehumidifier. A notable event was also a change in the chemical composition of cast iron. EVRAZ started using lump shungite in blast furnace production. The content of MgO in blast furnace slag was lowered.

In the Coal division were implemented 5 projects in installation of frequency control systems and 19 projects in reduction energy consumption or installed capacity of equipment. The full operability of reactive power compensation devices at Erunakovskaya-VIII mine was restored.

## EVRAZ total energy consumption<sup>1</sup>, 2019—2021



## Energy intensity of EVRAZ' steelmaking operations, 2019 - 2021, GJ/t<sup>2.3.4</sup>





#### **CASE STUDY**

# RENEWAL OF THE THERMAL POWER PLANT AT EVRAZ NTMK

In 2021, the thermal power plant at EVRAZ NTMK was successfully modernised. Following the renewal, greenhouse gas emissions into the atmosphere decreased by 7.5 thousand tons per year. At the same time, the plant's own electricity generation increased by 1.5% per year. A boiler installation was upgraded, two smoke pumps with reduced energy consumption were installed on boiler No. 9. The consumption of resources by each smoke pump reduced by 23%. This significantly facilitated the increase in their performance efficiency. In addition, the consumption of blast furnace and coke oven gases as fuel for steam boilers increased.

4. EVRAZ does not have any production facilities in the UK, only the office. Data for UK office as well as data for offices located in Russia and North America were not included in the graphs, since the volumes of consumed power are not material in terms of overall energy consumption within the Group.

The figure of total energy consumption comprises data on enterprises of the steelmaking segment (EVRAZ NTMK, EVRAZ ZSMK, EVRAZ Nikom, EVRAZ Caspian Steel, EVRAZ Inc. NA, EVRAZ Inc. NA Canada, EVRAZ Vanady Tula) and the mining and coal segment (EVRAZ Kachkanarsky Mining-and-Processing Integrated Works (EVRAZ KGOK), Raspadskaya Coal Company, Evrazruda).

<sup>2.</sup> The figure of energy intensity includes data on the Steel segment (EVRAZ ZSMK, EVRAZ NTMK) and Steel, North America segment (EVRAZ Portland, EVRAZ Pueblo, EVRAZ Regina, EVRAZ Camrose, EVRAZ Calgary, and EVRAZ Red Deer).

<sup>3.</sup> EVRAZ energy intensity in kWh: 6,387 in 2021, 6,472 in 2020 and 6,805 in 2019.



#### **Environmental management**

## 2021 HIGHLIGHTS

reduction of total air emissions



#### Our approach

One of the Group's strategic goals is to ensure sustainable business activities. Our approach to environmental management is defined in the EVRAZ Business Strategy and HSE Policy. All of our enterprises use an environmental management system based on the plan-do-check-act model.

The Group strives to ensure compliance with all relevant environmental requirements. We strictly comply with the rules on registration, evaluation, authorisation and restriction of chemicals (REACH) for products supplied from or manufactured in the European Economic Area by the Group's assets.

When developing new projects and operations, we perform special environmental and social impact assessments that evaluate possible indirect and direct effects of our activities on the local environment and communities. We also develop plans to reduce these impacts and manage them through engagement with local stakeholders, including regional authorities, enterprises and host communities.

To maintain a high level of environmental awareness and competence among our employees, we provide training on waste management approaches, HSE practices and other relevant topics.

## ENVIRONMENTAL STRATEGY

EVRAZ has developed an environmental strategy based on the sustainable business and environmental protection principles, which are integrated into all stages of our value chain. The following key indicators were achieved in 2021:

AREA	GOAL (2019-30)	2021 STATUS
Water	Zero wastewater discharges from steel production	63.5 million m <sup>3</sup>
Waste	Utilise 95% of waste from metal production and general waste	105%
	Recycle 50% of mining waste	30.9%
Air emissions	Reduce total atmospheric emissions from steel production by $33\%$	2.9% reduction year-on-year
	Reduce dust emissions from coal mining by 1.5 times	10.8% increase due to higher production volumes

#### Lowering air emissions

EVRAZ uses best available technologies and regularly updates equipment to lower air emissions and reduce their potential impact on human health and the environment. The primary emissions resulting from our business activities

include sulphur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOCs) and particulate matter (dust). In 2021, total key air emissions fell by 2,85% YoY.

#### EVRAZ total air emissions (including key emissions), 2019-21, kt



#### **CASE STUDY**



## CLEAN AIR PROJECT

As part of the implementation of the Clean Air federal project, which forms part of the Ecology national project in Russia, EVRAZ undertakes significant measures to improve its gas treatment systems.

As of the end of 2021, EVRAZ ZSMK had decreased its total emissions by 16.9 thousand tonnes. To reduce emissions of sulphur dioxide (SO2) and specific coke production, EVRAZ ZSMK plans to implement the following measures in 2021-24:

- Constructing a modern facility for flue gas desulphurisation at the sintering plant, which will contribute to a 62% reduction in emissions of key pollutants for Novokuznetsk by 2024.
- Decommissioning the cooling tower for the final cooling of coke gas at the coking plant, which will reduce emissions in hazard classes 1 and 2 from coke production by 76%.

EVRAZ NTMK is also involved in the Clean Air project. The initiatives that it has implemented have made it possible to reduce emissions by 7.4 thousand tonnes. To reduce emissions of harmful pollutants and address public concerns, the following measures are planned for 2021-24:

- Decommissioning the cooling tower for the final ٠ cooling of the coke gas at the coking plant.
- Constructing a new biochemical facility at the • coking plant.
- Introducing new technology for pitch • production (replacing old equipment).



#### **Balancing water supply**

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

In 2021, total water consumption at the Group's facilities was 219.99 million m<sup>3</sup>, of which freshwater accounted for more than 90%. Total freshwater consumption for production purposes was 199.42 million m<sup>3</sup>, which is 6.77 million m<sup>3</sup> less than in 2020.

## EVRAZ freshwater intake for production needs, 2019-21, million m<sup>3</sup>



The total volume of water discharged in 2021 was 121.49 million m<sup>3</sup>, which is 3.77 million m3 less than in 2020.

#### Total water discharged, million m<sup>3</sup>





## 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.

The implementation of the second stage is planned for 2022 and will consist of 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.

#### Waste stewardship

In its business activities, EVRAZ produces large volumes of general and metal production waste (not related to mineral extraction), as well as mining waste, such as overburden, tailings and barren rock. The Group uses the best available practices of waste management methods in this area to make rational use of natural resources and reduce waste generation.

The total amount of waste and by-products generated at our enterprises in 2021 equalled 195.7 million tonnes, including 8.6 million of non-mining waste.

EVRAZ strives to increase the amount of recycled and reused waste in accordance with its environmental strategy. In 2021, 66.8 million tonnes of waste (including mining waste) were recycled. Non-hazardous mining waste is used for land restoration and the construction of dams and roads. In the 2021, 57.8 million tonnes of waste of this kind were reused, accounting for 86.6% of the total amount of waste reused.

#### Mining and non-mining waste recycling and reuse rate, 2019-21, %



EVRAZ considers the safety of tailings storage facilities (TSFs) a priority, as their use poses significant environmental risks. The Group owns three metallurgical TSFs located at EVRAZ ZSMK and EVRAZ KGOK. The dam safety management system ensures compliance with the relevant legislation and covers all stages of TSF service life: design, construction, operation and closure. Safety is continually monitored, and our TSFs are regularly reviewed by both internal and external specialists and regulators.

#### **Protecting biodiversity**

We assess impacts on biological diversity at all stages of our production projects and acknowledge our responsibility to conserve biodiversity in general and local species and their habitats in particular. Our assets are not located in specially protected natural areas or areas of high biodiversity value.

The Group aims to ensure a rational and prudent approach to conserving biodiversity. We are also actively engaging with local communities on biodiversity issues.

In 2022, we plan to implement several measures, in accordance with the **Biodiversity Roadmap:** 

- Introduce biodiversity screening and risk assessment procedures, as well as develop and monitor biodiversity-related indicators.
- Identify the main directions of biodiversity conservation and measures to reduce risks to biodiversity.
- Develop and adopt a policy/standards on biodiversity conservation.

Through implementing the roadmap, we expect to obtain an assessment of the current impact on biodiversity, determine the goals on biodiversity conservation, and find ways and actions to achieve them.

#### Rehabilitating disturbed land and landscaping

The Group takes its obligations to restore disturbed land during mining operations seriously. To achieve this, we undertake environmental activities and rehabilitation projects. In 2022, the plan is to assess disturbed land, update the financial model and evaluate the economic feasibility of reclaiming land.

#### **Restoring aquatic biodiversity**

EVRAZ regularly releases various species of fish into water bodies to compensate for its potential impact on bioresources. Our approach to conserving biodiversity involves a commitment to the maintaining the quality of aquatic ecosystems and existing biodiversity. In 2021, the Group took part in a programme to research taimen fish in the Khabarovsk region.

#### **CASE STUDY**

### PROTECTING BIODIVERSITY

In 2021, the Group contributed to landscaping and biodiversity support through several measures.

- EVRAZ KGOK planted 750,000 conifers in the forests of Sverdlovsk region.
- EVRAZ released more than 375,000 fish fry into the rivers of the Ob-Irtysh basin in Siberia.