

## ENVIRONMENT

### OUR APPROACH

EVRAZ prioritises the mitigation of possible environmental impacts from its steel and mining operations by introducing best management practices and adopting advanced technology. This helps the Group to prevent or control any undesired environmental consequences while consuming less energy and natural resources.

These operations are subject to strict environmental legislation requiring that EVRAZ complies with the terms of special environmental permits and licences, which generally entails certain environmental commitments, recruiting qualified personnel, maintaining necessary equipment and environmental monitoring systems, and periodically submitting information to environmental regulators. Failing to comply with any of these requirements could potentially lead to the suspension, amendment, termination or non-renewal of the environmental permits and licences. The Group could also incur significant costs related to eliminating or remedying any such violations.

Understanding that its production processes entail certain environmental risks and liabilities, EVRAZ is focused on preventing or minimising of any potential adverse environmental consequences from its operations. The Group's corporate management system includes environmental procedures based on the plan-do-check-act (PDCA) model. It has been developed to promote EVRAZ health, safety and environment (HSE) policy principles and support its environmental strategy implementation, which includes environmental risk assessment, planning, legal compliance management, reporting and other processes.

For all new operations and projects, the Group performs environmental and social impact assessments (ESIAs) that engage with local and regional governments, businesses

and community members in the affected area. EVRAZ uses ESIAs to assess how the new operations might potentially impact the local community and surrounding environment, both directly and indirectly. As part of the ESIA process, the Group establishes mitigation plans to minimise and manage any potential impact and engages with local communities throughout the project's life to discuss any decisions that may be made.

EVRAZ strictly complies with the registration, evaluation, authorisation and restriction of chemicals (REACH) regulations concerning various substances supplied to or manufactured in the EU (European Economic Area) by the Group's assets. EVRAZ supports the European Community's health and environmental goals as established in the Regulation (EC) No. 1907/2006 of the European Parliament and of the Council, which governs the REACH requirements.

Another aspect of the Group's environmental programme is training courses and seminars to encourage the exchange of experience by its specialists in the field.

EVRAZ also employs environmental audits (due diligence) to perform environmental liability and risk assessments of existing sites and assets being acquired.

Throughout its operations, the Group has introduced an environmental management system that it has developed based on the corporate approach and prioritises international certification, which, while not a legal requirement, has led to seven of the Group's sites obtaining ISO 14001 certification, including core operations like EVRAZ NTMK and EVRAZ ZSMK.

➡ For additional information see EVRAZ first Sustainability Report for 2018, which is to be published in May 2019.

### Environmental strategy

The Group's environmental strategy aims to minimise any negative impacts caused by its operations, as well as to make efficient use of natural resources and find optimal industrial waste management solutions. Environmental compliance is an overriding long-term priority.

EVRAZ has adopted new, five-year environmental targets (covering 2018–22) aimed at:

- Decreasing fresh water consumption by 10%
- Recycling 95% of annual non-mining waste
- Maintaining the greenhouse gas intensity ratio below 2 tonnes of carbon dioxide (CO<sub>2</sub>) equivalent (tCO<sub>2</sub>e) per tonne of steel cast

The Group has committed to implement various environmental protection programmes over 2018–24. As of 31 December 2018, the estimated cost to implement these programmes totalled US\$121 million.

In 2018, EVRAZ spent US\$30.1 million on measures to ensure environmental compliance and US\$29.8 million on projects to improve its environmental performance. Non-compliance-related environmental levies and penalties were US\$2.2 million.

The Group's assets had no significant environmental incidents or material environmental claims during the reporting period.

### Biodiversity

EVRAZ recognises its responsibility to prevent and minimise its potential impact on the environment and biodiversity at all stages of the mining and steelmaking process, including when performing geological surveys, designing facilities, conducting operations and restoring sites that are no longer used.

The Group's long-term goal is to foster a culture among its employees of care and concern for the environment and biodiversity of the areas in which it operates, as well as in how they implement its projects and create a positive dialogue with the local community.

The Group's primary biodiversity efforts include:

- Restoring damaged lands and landscaping
- Restoring of water biodiversity
- Implementing social and environmental initiatives

**3.5 thousand trees**  
were planted in 2018

**72.3 thousand fry**  
were released into local rivers in 2018

EVRAZ implements long-term projects aimed at compensating for its environmental impact.

- Since 2011, the Abagursky branch of EVRAZ ZSMK has been working on the reclamation of its old tailings storage No. 2. In 2018, the site completed the dehydration and land planning stages of the project. The biological reclamation will begin in 2019.
- Since 2015, the Rapsadskaya mine has been implementing a long-term project to recover land damaged during open-pit mining (138 hectares).
- In 2018, a project for landscaping damaged lands of the old waste storage section at EVRAZ ZSMK was completed. Overall, 17.9 hectares of land were restored and 2,400 pine seedlings were planted.
- Work to landscape industrial sites and sanitary protection zones at facilities continued in 2018.

As part of EVRAZ environmental initiatives, trees are planted in parks, public squares, town/city streets and in the territory around kindergartens. Young trees brought from mine allotments where the forest is subject to felling are often used for planting as part of the “Second Life for Trees” initiative.

To restore aquatic biodiversity, the Group releases juvenile fish into the rivers of Kemerovo region and Sverdlovsk region.

EVRAZ social and environmental initiatives include:

- “Environmental Saturday” voluntary work days – cleaning parks, planting trees and putting up birdhouses
- “Second Life for Trees” initiative – replanting young trees from mining allotments where the forest is subject to logging
- “Big Green Games” – environmental competitions among local companies in which teams choose their own areas to clean up
- “Clean Games” environmental quest – teamwork in collecting and sorting garbage in parks
- “Clean Shore” initiative – helping to clear debris from the protected watersheds of the Bolshoy Unzas, Kondoma and Maly Bachat rivers
- “Live Spring” initiative – improving natural springs

## Air emissions

Reducing air emissions is one of EVRAZ overriding environmental priorities. The key air emissions comprise nitrogen oxides (NOx), sulphur oxides (SOx), dust and volatile organic compounds (VOC). In 2018, the key air emissions dropped by 6.5% year-on-year.

The current strategy for reducing air emissions envisages upgrading gas treatment systems, introducing modern technology and eliminating obsolete equipment.

In 2018, EVRAZ ZSMK completed the reconstruction of the gas treatment equipment at its sintering facility and made several improvements to reduce the plant’s key air emissions by 6.5 thousand tonnes in 2018.

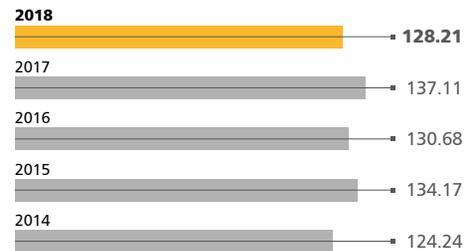
EVRAZ NTMK brought blast furnace No. 7 online during the reporting period. Emissions from pig iron produced in the furnace are captured and impurities are removed using bag filters, which minimises atmospheric pollution. The powerful aspiration system has reduced the residual dust content of the exhaust gases by 40%. The technical re-equipment of the aspiration system for mixers No. 1, 2 and 3 in oxygen converter shop No. 1 is being completed, and the capital repair programme for the dust-gas cleaning equipment is being implemented at the plant’s shops and production lines. EVRAZ NTMK’s key air emissions have been reduced by 0.5 thousand tonnes.

## Greenhouse gas emissions

EVRAZ operations generate carbon dioxide and other greenhouse gas (GHG) emissions. The Group understands that mitigating climate change risks is a crucial element in planning for the future welfare of its employees and local communities throughout its global enterprises.

EVRAZ understands the urgency of preventing climate change and supports the global effort to reduce the emission of GHGs into the atmosphere. In compliance with the Companies Act 2006 (Strategic and Directors’ Report) Regulations 2013, the Group measures the full GHG emissions at its facilities and has taken part in the CDP Climate Change Programme since 2011.

### Key air emissions,<sup>1</sup> kt



A key aspect of EVRAZ strategy is to reduce GHG emissions by consuming fewer energy resources.

The Group has set a five-year target for its Steel segment to keep the GHG intensity ratio below 2 tonnes of carbon dioxide (CO<sub>2</sub>) equivalent (tCO<sub>2</sub>e) per tonne of steel cast. In 2018 the target was almost achieved (2.005).

EVRAZ measures direct (Scope 1) emissions of all seven “Kyoto” GHGs<sup>2</sup> and indirect (Scope 2) emissions from the use of electricity and heat. The inventory approach<sup>3</sup> was based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC 2006) and the WRI/WBCSD GHG Protocol Corporate Accounting and Reporting Standard. The Group reports data in terms of tCO<sub>2</sub>e, calculated using the IPCC 2006 global warming potentials.

EVRAZ has collected GHG emissions data for 2018 and compared them with the 2014-17 levels. The Steel segment continues to generate more than half of the gross GHG emissions from the Group’s operations. Nearly 91% of the Coal segment’s full emissions come from fugitive methane (CH<sub>4</sub>) leakage, which is caused by methane ventilation from underground mines and post-mining emissions from coal.

In 2018, the overall GHG emissions from EVRAZ operations decreased by around 6.9% year-on-year. Emissions of CO<sub>2</sub> fell by 5.3% (or 1.49 million tCO<sub>2</sub>e) due to the cease in operations in Ukraine and lower steel production at EVRAZ NTMK. In the Coal segment, CH<sub>4</sub> emissions reduced by 7.6% (-625 ths.tCO<sub>2</sub>e) as a result of lower volumes of underground mining (-1.4 mln.t) and higher open pit mining at Rapsadskiy Open Pit and Rapsadskaya-Koksovaya (+2.67 mln.t).

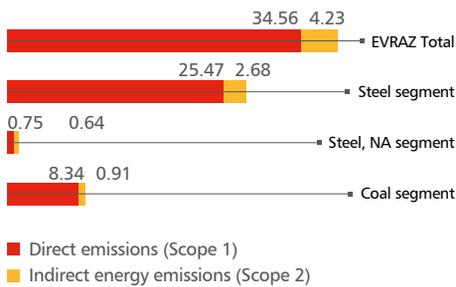
In 2018, the Group decreased its Scope 1 emissions by 6% and brought down its Scope 2 emissions by 15%. The former was due to a reduction in both carbon dioxide and methane

<sup>1</sup> Air emissions calculation perimeter differs from the calculation perimeter of GHG emissions.

<sup>2</sup> Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC) and perfluorocarbons (PFC), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>)

<sup>3</sup> The inventory of emissions includes all entities that EVRAZ controls. Entities that were disposed of during the year were included for the period they were part of the Group. Only entities that were deemed immaterial for consolidated emissions based on their operational indicators were omitted. Direct CO<sub>2</sub> emissions from operations were calculated using the carbon balance method for carbon flows within production facilities, including fuel use. Emissions of other GHGs were calculated based on measured volumes, inventory changes or IPCC 2006 factors and models (including for post-mining coal methane emissions) where direct measurement data were not available. Indirect emissions were estimated using emission factors specifically developed for the country or region, if available, or otherwise factors provided by UK Defra.

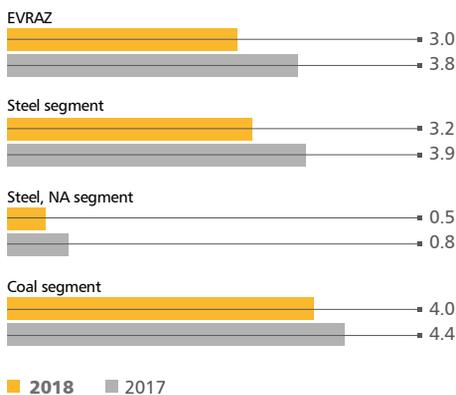
### EVRAZ GHG emissions in 2018, million tCO<sub>2</sub>e



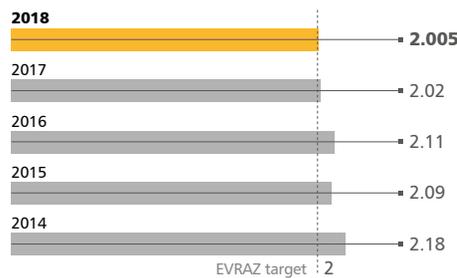
emissions, which accounted for some 5% of total emissions, while the latter was due to lower energy purchases at EVRAZ ZSMK and the cease in operations in Ukraine.

EVRAZ reports an intensity ratio relating its annual GHG emissions to its activities: total Scope 1 and 2 emissions per consolidated revenue for the Group overall and each operating segment, and specific emissions in the Steel segment per tonne of steel cast for 2014-18. ▶

### GHG emissions per net revenue, kg CO<sub>2</sub>e/US\$



### Specific Scope 1 and 2 GHG emissions from Steel segment (incl. NA), tCO<sub>2</sub>e per tonne of steel cast



### Water consumption and discharge

EVRAZ strives to make efficient use of water resources and prevent any negative water quality impacts through environmental incidents.

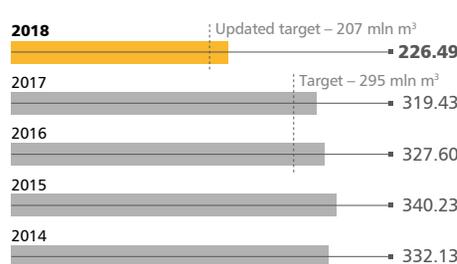
In 2018, almost 81% of the Group's total water intake came from surface sources, including rivers, lakes and reservoirs, down 4 percentage points year-on-year.

During the reporting period, the ongoing programmes to improve the water management at EVRAZ operations continued to deliver environmental benefits. In 2018, the Group consumed 93 million cubic metres less fresh water than in 2017, for a year-on-year reduction of 29.1%. Almost 85.3 million cubic metres have been excluded out of the balance due to the exclusion of assets in 2018.

The new five-year target is to decrease fresh water consumption by 10% compared with the baseline of 2016. The Group has set 2016 (231 million cubic metres) as a new baseline, taking into account asset exclusion.

While water pumped from mines (dewatering) is not included in the fresh water consumption target, pumped water is partly used for technological needs. In 2018, EVRAZ pumped out and used 17.36 million cubic metres of mine water, compared with 21.15 million cubic metres a year earlier.

### Fresh water intake for production purposes,<sup>4</sup> million cubic metres



### EVRAZ GHG emissions, million tCO<sub>2</sub>e

	2018	2017 <sup>5</sup>	2016	2015	2014
<b>Direct (Scope 1)</b>	<b>34.56</b>	<b>36.68</b>	<b>35.81</b>	<b>36.87</b>	<b>39.05</b>
CO <sub>2</sub>	26.86	28.35	28.76	29.13	31.08
CH <sub>4</sub>	7.64	8.26	6.99	7.67	7.89
N <sub>2</sub> O	0.06	0.06	0.07	0.07	0.08
PFC and HFC	0.00009	0.00003	0.0001	0.0002	0.0002
SF <sub>6</sub>	–	–	–	–	–
NF <sub>3</sub>	–	–	–	–	–
<b>Indirect (Scope 2)</b>	<b>4.23</b>	<b>4.97</b>	<b>5.02</b>	<b>6.17</b>	<b>7.96</b>
<b>Total GHG emissions</b>	<b>38.79</b>	<b>41.65</b>	<b>40.83</b>	<b>43.04</b>	<b>47.00</b>

<sup>4</sup> Calculation perimeter includes the following subsidiaries: EVRAZ NTMK, EVRAZ KGOK, EVRAZ ZSMK, Evrazruda, EVRAZ DMZ, Rospadskaya Coal Company, EVRAZ Caspian Steel, EVRAZ Palini e Bertoli, EVRAZ Vanady Tula, EVRAZ Stratoor, EVRAZ Nikom, EVRAZ Calgary, EVRAZ Camrose, EVRAZ Portland, EVRAZ Pueblo, EVRAZ Red Deer, EVRAZ Regina.

<sup>5</sup> The results for 2017 were recalculated due to improvements in data quality and several identified inaccuracies regarding material flows, which resulted in a downward correction of 0.017 million tCO<sub>2</sub>e for Scope 1 emissions.