

ENVIRONMENTAL RESPONSIBILITY

The Company has made it a priority to reduce its negative environmental impact in the regions where it operates as it expands production and makes use of the best available technologies to improve the efficient use of natural resources.

RUB 1.3 billion

allocated for the modernisation of enterprises

+8.4%

increase in waste recycling in 2018

-4%

reduction in solid particles emitted into the atmosphere

RUB 7.2 billion

spent on the environment and invested in environmental protection

RUB 516.5 billion

reduction in energy consumption in monetary terms in 2011-2018 as a result of implementing innovative solutions

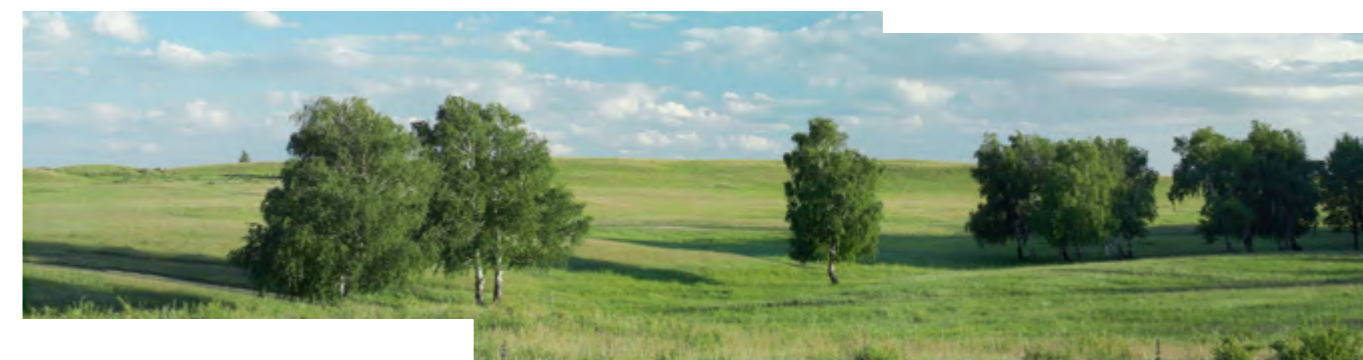
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04

Environmental Responsibility

Plans for 2018	Results of the reporting period	Plans for 2019 and the mid-term
<h2>Retrofitting, modernisation, outfitting, and technical measures in order to reduce the environmental impact</h2>		
<p>Lebedinsky GOK</p> <ul style="list-style-type: none"> › Irrigation of the dusting areas at the tailings facility with a reinforcing solution of the DUSTBIND treating agent from small aircraft on 616 hectares › Dust suppression at over 338.4 hectares of open pit roads, tailings facilities and at the crushing and sorting plant with the Bischofite binding agent › Application of clay soil (using a hydro-mechanical system) to temporarily unused sections #2 and #3 of the tailings facility on 300 hectares (600,000 m³) 	<p>All the plans were implemented in full, which made it possible to significantly improve the air quality both inside the enterprises and in nearby regions. All the measures that were carried out have proven to be effective</p> <p> For more details, see the sections Material Resources Use (pp. 59-61), Emissions, Air Protection and Climate Strategy (pp. 66-68), and Water Consumption and Protection (pp. 62-65).</p>	<p>Metalloinvest</p> <ul style="list-style-type: none"> › Measures to equip stationary emission sources <ul style="list-style-type: none"> – automatic measuring and recording tools for pollutant emissions and/or discharges; – technical equipment to record and transmit information about pollutant emission and/or discharge indicators. › Summarising the initial results of the retrofitting conducted in 2018 › Completion of construction and installation work as part of the reconstruction of the granemite emulsion explosive component production facility
<p>Mikhailovsky GOK</p> <ul style="list-style-type: none"> › Retrofitting of the pelletising plant. Modernisation of the dust collection system at transshipment sites of open pellet warehouses CO-3-GR-8, CO-2-CO-6 (2018 stage – equipment installation) 		
<p>OEMK</p> <ul style="list-style-type: none"> › Retrofitting of the 5th and 6th cooling water circuits to ensure the simultaneous operation of five continuous casting machines (final stage, commissioning) › Installation of a suction system in the limestone screening unit 		
<p>Ural Steel</p> <ul style="list-style-type: none"> › Reconstruction of the suction system at the stock houses of Blast Furnaces No. 3 and 4 (drafting of design documentation, choice of equipment supplier) 		



Plans for 2018	Results of the reporting period	Plans for 2019 and the mid-term
<h2>Construction of new facilities</h2>		
<p>Lebedinsky GOK</p> <ul style="list-style-type: none"> › Construction of a landfill for industrial waste disposal 	<p>Construction of the landfill has commenced and will continue in the new reporting period</p>	<p>Lebedinsky GOK</p> <ul style="list-style-type: none"> › Landfill for industrial waste disposal: reconstruction of Landfill Area No. 3; construction of a 100-tonne weigh house
<h2>Reclamation and biodiversity maintenance</h2>		
<p>Lebedinsky GOK</p> <ul style="list-style-type: none"> › Biological reclamation of a 25 hectare loose overburden dump pit › Biological reclamation of a 15.8 hectare tailings dam › Sanitary and hygienic reclamation of tailings dam levees 	<p>Planting of acacias on the territory of the loose dump pits and tailings dam contributed to more dust-forming surfaces</p> <p> For more details, see the section Maintaining Biodiversity (pp. 69-70)</p>	<p>Lebedinsky GOK</p> <ul style="list-style-type: none"> › Monitoring the vegetation cover at the landfill site › Development of basic procedures for the comprehensive continuous tracking (monitoring) of the condition and changes in the ecosystem of the Yamskaya Steppe and its components <p>OEMK</p> <ul style="list-style-type: none"> › Final (mining) reclamation of the landfill for the production and consumption waste of OEMK (2nd stage)
<h2>Certification</h2>		
<p>Certification for compliance with the ISO 50001 Energy management standard by Mikhailovsky GOK, Lebedinsky GOK, and Ural Steel</p>	<p>All Metalloinvest enterprises have been certified for compliance with ISO 50001 Energy management</p>	<p>Continual confirmation of compliance with environmental management systems</p>
<p>Confirmation of compliance with the environmental management systems</p>	<p>External audits confirmed compliance of the environmental management systems / integrated management systems with the requirements of ISO 14001:2015</p>	

Plans for 2018	Results of the reporting period	Plans for 2019 and the mid-term
<p>Improved environmental indicators</p> <p>Continued work to reduce the environmental impact, including by modernising production facilities</p>	<ul style="list-style-type: none"> › Increased material reuse rate › Increased waste utilisation rate and reduced waste disposal rate › Reduced emissions of solid particles (dust) into the atmosphere › Introduction and modernisation of in-house generation technologies in order to reduce energy consumption and reduce energy consumption costs 	<p>Metalloinvest</p> <ul style="list-style-type: none"> › Increased material resource reuse rate › Research work on reactive power compensation <p>Lebedinsky GOK</p> <ul style="list-style-type: none"> › Overall decrease in dust air pollution due to a reduction in dust-forming areas <p>OEMK</p> <ul style="list-style-type: none"> › Reduced negative environmental impact during the operation of the shot-blasting unit of the metal conditioning site and during the transportation of oxidised and metallised pellets <p>Ural Steel</p> <ul style="list-style-type: none"> › Decrease in harmful air pollutant emissions from emission sources of the blast furnace shop
<p>Environmental strategy and planning</p>		<p>Metalloinvest</p> <ul style="list-style-type: none"> › Updating existing policies with provisions on how to interact with specially protected natural areas › Developing measures to reduce direct greenhouse gas emissions and increase carbon capture



For more details, see the sections [Material Resources Use, Emissions, Air Protection and Climate Strategy](#) (pp. 66-68), and [Energy Consumption and Efficiency](#) (pp. 70-73)

Management of Environmental Responsibility

Environmental responsibility issues are managed as part of a two-tier system: at the level of the Management Company and at the level of enterprises. At the Management Company level, the First Deputy CEO and Production Director and the Environment, Occupational Health and Safety Division coordinate environmental protection issues. At enterprises, chief engineers and the core units under their control are responsible for environmental protection activities.

Environmental protection issues as well as the Company's goals for environmental responsibility are enshrined in the Health, Safety and Environment Policy. The Company's primary goal in this regard is to reduce its environment impact through the following objectives:

- › continuously developing and improving production processes;
- › sustainable use of production and natural resources;
- › improving the efficiency of industrial environmental monitoring;
- › compliance with environmental legislation.

Metalloinvest carries out a number of measures to achieve these objectives such as investing heavily in environmental protection activities and improving the technologies it uses.

The Company's expenses on environmental protection amounted to RUB 7.2 billion during the reporting period, a 10% increase compared with the previous reporting period. Of this amount, RUB 1.3 billion were spent on the retrofitting of enterprises. In total, the Company's expenditures on environmental protection measures and investment in environmental protection amounted to RUB 37 billion in 2014–2018.

All the Company's enterprises have environmental management systems. In order to ensure compliance with the Company's high environmental protection standards and environmental legislation, internal corporate inspections of environmental management activities and management systems are carried out at all the Company's plants. Corrective measures are taken based on the results of inspections to improve the existing environmental management systems.



In addition to internal corporate inspections, the Company conducts industrial environmental monitoring as well as internal and external audits of the environmental management system. An external audit carried out during the reporting period reaffirmed that the Company's environmental management systems and integrated management systems comply with the requirements of ISO 14001:2015.

External supervisory authorities also conducted a number of inspections during the reporting period, which revealed a few areas of noncompliance with environmental legislation. The Company was fined a total of RUB 200,000. All the violations found were investigated and rectified. A set of preventive measures was developed in each case to prevent violations in the future.

Such measures include, for example, regular monitoring of changes in legislative requirements and the annual training of employees who are responsible for environmental issues at the enterprises as part of seminars on environmental legislation, which are also attended by government representatives.

Metalloinvest's high level of awareness of changes to the aforementioned requirements resulted in the all the holding's enterprises complying with future requirements of Russian environmental protection legislation as well as the integration of the best available technologies (BAT) during the construction and modernisation stages of production facilities. This approach ensures sequential ecological and technical transformation and a reduction in the environmental impact. In addition, information and technical reference guides on BAT were drafted with Metalloinvest's support on such issues as Iron Ore Mining and Processing, Pig Iron, Steel, and Ferroalloy Production, and Ferrous Metal Downstream Production.

The Company not only provides awareness about the importance of environmental issues at the management level, but also at the level of all enterprise employees with a series of informational events that includes monthly committee meetings on occupational health and safety and environmental safety, briefings of directors, reports by managers, a quarterly summary of the results of monitoring procedures, and an annual corporate seminar on occupational health and safety and environmental safety.

In addition, the Company does not neglect the interests of external stakeholders and engages them by providing periodic reports and organising public hearings on issues concerning the assessment of the environmental impact of the Company's current and planned activities.

Effective feedback mechanisms with internal and external stakeholders on issues concerning environmental responsibility received high marks in the WWF environmental responsibility rating in which the Company was ranked 6th among Russian mining and steel companies.

The Company's commitment to managing environmental responsibility is confirmed by Metalloinvest's use of EMS-certified production facilities. The share of employees and contractors working at EMS-certified facilities remains consistently high and amounted to 80% of the total headcount in 2018. EMS-certified production facilities manufactured a total of 5,053 thousand tonnes of steel. Thus, all manufactured steel is 100% certified in accordance with ISO 14001 certificates.

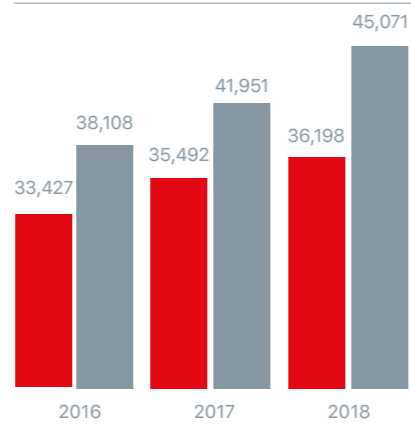
Drafting of scientific and technical reference guides on the best available technologies

In accordance with Federal Law No. 219-FZ dated 21 July 2014 On Amendments to the Federal Law on Environmental Protection and Certain Legislative Acts of the Russian Federation, all ferrous metals enterprises must switch to the use of BAT that are specific to each type of activity and described in the BAT reference guides in the period from 1 January 2019 to 1 January 2025. Sharing environmental values and promoting environmental legislative activities, Metalloinvest supported the drafting of the guides and one of the Company's representatives chaired the Working Group that prepared them.

In addition to describing the industries and their typical technological processes, the guides include a list of the best available technologies that can be used to help reduce the impact in each particular industry and set targets for their use.

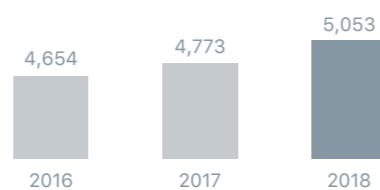
All the Company's enterprises confirmed compliance with all the requirements specified in the BAT reference guides during the reporting period and thus confirmed compliance with the legislative requirements.

Management of emissions



- Number of employees and contractors working at EMS-certified production facilities
- Total number of employees and contractors working at production facilities (excluding non-production units)

Amount of steel produced at EMS-certified production facilities [thousand tonnes]



Material Resources Use

Metalloinvest strives to maximise efficiency in its use of resources and waste generation and is making significant efforts to reduce material consumption and increase the proportion of recycled and reused raw materials.

Metalloinvest enterprises form a direct production chain. The holding's mining enterprises (Lebedinsky GOK and Mikhailovsky GOK) produce iron ore raw materials, which are both finished products that can be sold as well as the main material resource used in the production process at the holding's metallurgical enterprises (OEMK and Ural Steel).

In addition to iron ore, the metallurgical enterprises use coking coal and scrap metal in their production cycle. The use of material resources increased overall in the reporting period due to an increase in production capacity in the same period, in particular due to an increase in the production of pellets, HBI, DRI, pig iron, and steel.

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Key material resources used in production [thousand tonnes]

Resource	2015	2016	2017	2018	Change
Iron ore	8,220	9,274	8,644	9,439	+9.2%
Coking coal	1,764	2,156	1,824	1,674	-8.2%
Scrap metal	1,529	1,575	1,765	1,818	+3.0%

Overburden rocks are generated as a by-product during the stage of extraction and recovery of iron ore raw materials. Metalloinvest cares about the maximum efficiency of resource use and strives to use all the by-products of mining and production. In particular, if overburden rocks are suitable for

use as mineral raw materials, the Company takes advantage of this opportunity by processing them into an alternative product (for example, overburden rocks have become widely used in the production of crushed stone for road filling).

Iron ore extraction waste subsequently used for operational needs [000' tonnes/000' m³]

Waste	2017	2018	Change
Black soil (000' m³)	24.0	150.2	+526%
Clays and loams (000' m³)	24.3	29.0	+19%
Crushed stone (000' m³)	884.0	998.6	+13%

Data on clays and loams was adjusted in comparison with the 2017 Corporate Social Responsibility Report.

A number of waste products that can be recycled or reused are generated during the metallurgical cycle when manufacturing products. The Company supports the idea of efficiently utilising resources and ships a significant proportion of the waste it generates for reuse. In particular,

blast furnace slag can be used in construction work (for example, for concrete mixes) or can be resold to construction companies, while internal scrap can be reused in the production process.

Most of the waste (98%) consists of overburden and barren rock as well as refinement tailings, is classified as Hazard Class 5, and has virtually no effect on ecological systems. The total volume of waste edged up by 1% during the

reporting period, due to an increase in the volume of Hazard Class 5 waste (virtually non-hazardous waste) as well as increased production.

Reused material resource waste [000 tonnes]

Waste	2017	2018	Change
Blast furnace slag	1,108	1,205	+ 8.8%
Dust	556	534	- 4.0%
Sludge	113	112	- 1.3%
Recirculated scrap	465	486	+ 4.5%

Production waste that cannot be reused is recycled, disposed of, or transferred to other organisations. During the reporting period, the Company managed to significantly increase the

volume of recycled waste (by 8.4%) and waste transferred to other organisations (by 6.8%), while decreasing the volume of disposed waste (by 2%).

Key responsible resource usage measures

The Company began building a landfill for industrial waste disposal during the reporting period

Plans for 2019

The following goals have been set for 2019 in accordance with the short-term environmental goals of the Group's enterprises:

- › final (mining) reclamation of a landfill for production and consumption waste at OEMK;
- › reconstruction of a landfill for industrial waste disposal and construction and equipping of a 100-tonne weigh station at Lebedinsky GOK.

Waste generation and treatment by class [tonnes]

	Hazardous waste						Non-hazardous waste				Total	
	Class 1		Class 2		Class 3		Class 4		Class 5		Total	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Recycling (by-products generated)	0	0	472	395	181	416	258,232	843,031	18,608,028	19,605,351	18,866,913	20,449,193
Thermal deactivation (incineration)	0	0	0	0	43	35	35	48	10	6	87	90
Processing for recycling, including sorting, disassembling, and treatment	0	0	0	0	249	245	540,733	0	5	0	540,987	245
Materials sent for disposal, including:	0	0	0	0	570	603	112,671	126,202	106,767,553	106,699,045	106,880,794	106,825,850
To landfills	0	0	0	0	152	603	101,733	126,202	56,649,583	55,467,086	56,751,468	55,593,891
On-site storage	0	0	0	0	418	0	10,938	0	50,117,970	51,231,959	50,129,326	51,231,959
Transfer of waste for processing, recycling, deactivation, storage, and disposal	28	23	62	87	4,111	3,725	1,645,771	1,765,380	220,897	229,960	1,870,869	1,999,175
Total	28	23	534	482	5,154	5,024	2,557,442	2,734,661	125,596,493	126,534,362	128,159,650	129,274,551

Water Consumption and Protection

303-1

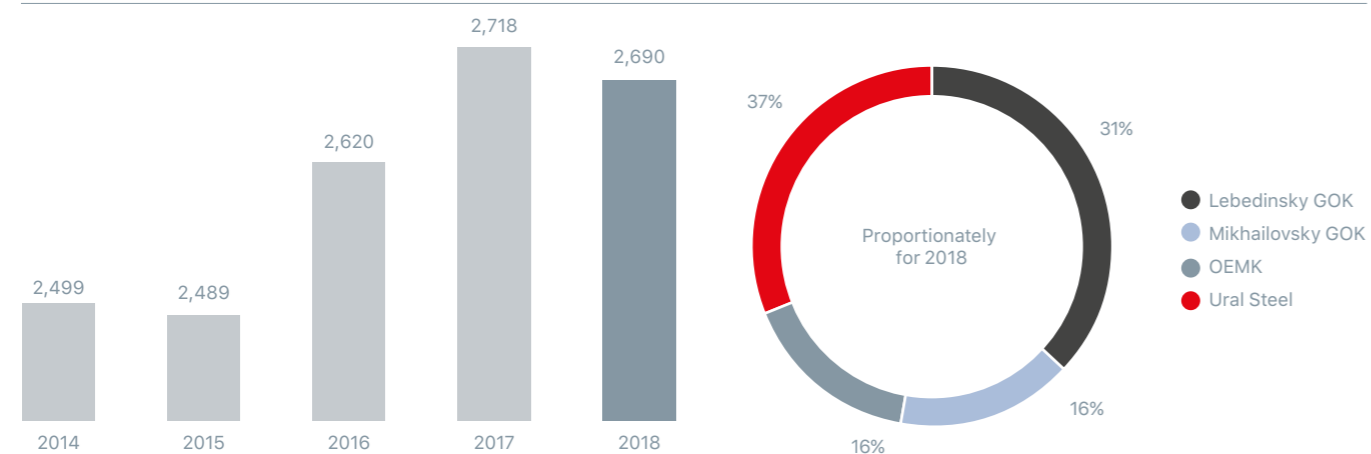
Metalloinvest strives to increase the amount of water it recycles and reuses in an effort to reduce the impact on water bodies. The Company uses special settling tanks whose equipment prevents used water from penetrating the soil. Wastewater stored in tanks is used as process water.

Overall water consumption increased compared with the previous reporting period due to the scaling up of production, while the share of water consumed amounted to 5.6% of the total volume of water recycled and reused. Most of the water consumption is used to cool furnaces and equipment, a process in which no water pollution occurs.

The total volume of water reused at plants is calculated using water balance estimation in the water recycling systems.

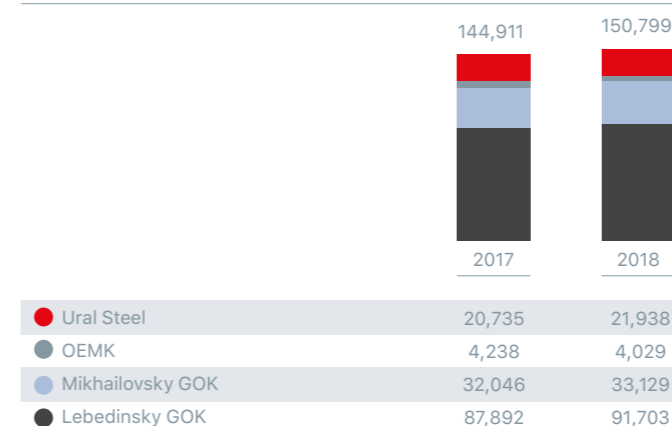
Metalloinvest enterprises receive water for industrial needs and drinking water supply from surface and groundwater. The main sources of water intake and wastewater discharge are rivers (Oskol, Oskolets, Ryasnik, Chern, Rechitsa, and Ural) and a reservoir (Starooskolsky reservoir) located in the regions where the plants operate.

Total volume of water recycled and reused [million m³]



303-3

Total water intake [million m³]



There are no water shortage in any regions from which water is taken.

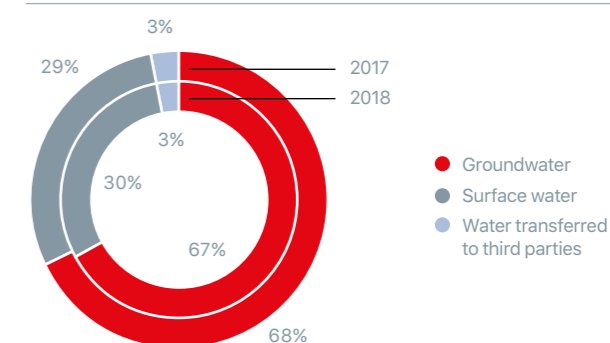
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The Company pays significant attention to compliance with water usage conditions and takes a responsible approach to monitoring its impact on water resources. In particular, the Company's accredited in-house laboratories monitor and analyse the content of pollutants both in intake water as well as wastewater on a monthly basis. In addition, the Company maintains strict records of water intake and monitors the condition of water bodies and their water protection zones within which it carries out diving surveys of fish protection structures at water intakes each year, among other measures.

303-2

Wastewater discharge edged down slightly in 2018 compared with the previous year and amounted to 34,060,000 m³. The Company carries out timely and effective measures to prevent accidents at water bodies. No unplanned wastewater discharge was carried out in 2018.

Amount of water intake with a breakdown by source [%]



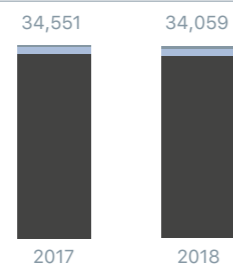
The Company does not use formation or sea water, and all the water it takes is classified as fresh.

Prior to being discharged, the entire volume of polluted water was treated at sewage treatment plants using biological, mechanical, physical, and mechanical methods, which significantly reduced the impact of Metalloinvest's plants on the biodiversity of water bodies.

All the Company's wastewater complies with state and municipal quality standards as well as the internal monitoring programme for water bodies and their water protection zones and is discharged within the prescribed limits.

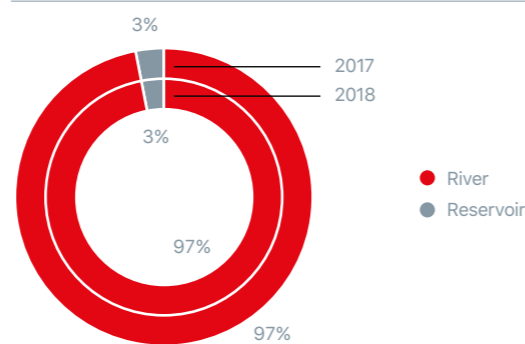
The main body of water into which water is discharged is the Oskolets River near Lebedinsky GOK, and the quality of the wastewater is much higher than the quality of water in the river itself.

303-4 Wastewater discharge [million m³]



	2017	2018
Ural Steel	0	0
OEMK	169	256
Mikhailovsky GOK	1,508	1,363
Lebedinsky GOK	32,874	32,440

Wastewater discharge by type of destination [%]



Ural Steel does not discharge wastewater. All wastewater discharges were planned.

303-4 Wastewater discharge by quality [000' m³]*

Wastewater treatment method	Lebedinsky GOK	Mikhailovsky GOK	OEMK	Wastewater discharge volume using treatment method	
				2018	2017
Standard treated water including	18,092	889	256	19,237	18,544
Biological treatment	19	0	0	19	26
Physical and mechanical treatment	0	0	256	256	169
Mechanical treatment	18,073	889	0	18,962	18,349
Untreated wastewater	0	0	0	0	0
Effluents	0	0	0	0	16
Standard clean (untreated)	14,348	474	0	14,822	15,991
Total wastewater discharge by facility	32,440	1,363	256	34,059	34,551

* Ural Steel does not discharge wastewater.

Greywater is transferred to municipal wastewater services for further treatment. A total of 12,280,000 m³ of wastewater was transferred to municipal services during the reporting period, which is 8% less than in the previous year.

Key water consumption measures

Retrofitting cooling water circuits at OEMK

In December 2018, OEMK completed the retrofitting of its 5th and 6th cooling water circuits. The project ensures uninterrupted water supply for the closed cycle and the simultaneous operation of five continuous casting machines (CCMs). The modernisation of the water circuits helped to reduce the volume of water taken and discharged while increasing production.

Process water recycling system at Mikhailovsky GOK

A project was launched in the fourth quarter of 2018 to equip the crushing and screening plant (CSP) at Mikhailovsky GOK with a recycling water supply system. The project will eliminate wastewater discharges into the Ryasnik River.

Creation of a water protection zone in the Chern River at Mikhailovsky GOK

This measure was carried out to eliminate the risk of pollution of the Chern River.

Plans for 2019

Due to an expansion in production, the Company's top priority is to maintain the level of water intake and water consumption at the current level in accordance with the short-term environmental objectives of the Group's enterprises for 2019.

The Company plans to continue work to equip the crushing and screening plant (CSP) at Mikhailovsky GOK with a process water recycling system.



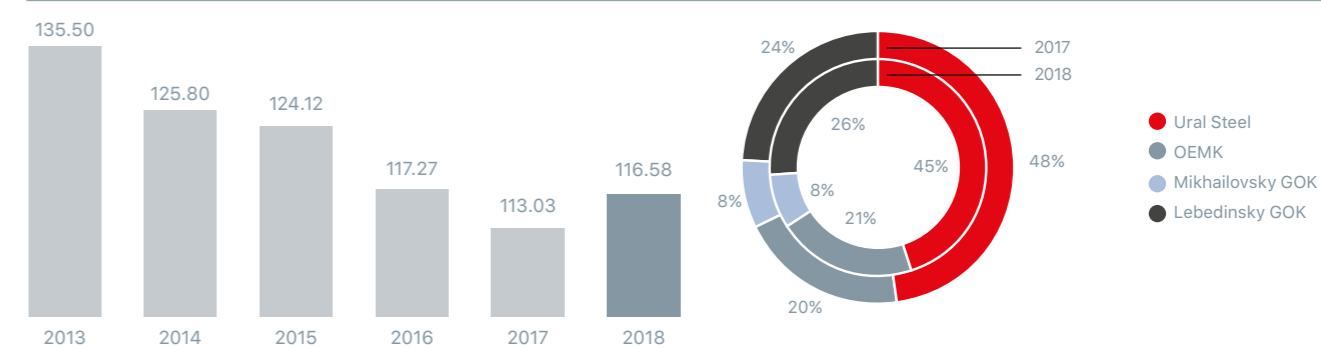
Emissions, Air Protection and Climate Strategy

305-7

Air protection is a major priority for the Company in terms of environmental protection. The Company is implementing a number of initiatives that aim to stabilise the amount of pollutant and dust emissions as it significantly expands production.

Total air emissions totalled 116,600 tonnes in 2018, an increase of 3% from the previous year due to the Company's expanded production capacity. Dust control initiatives that were implemented during the reporting period, including retrofitting (for more details, see the section Key air protection measures), helped to reduce the amount of solid particles emitted into the atmosphere by 4%.

Total air pollutant emissions from stationary sources [000' tonnes]



Structure of pollutant emissions [000 tonnes]

	2016	2017	2018
Particulates	18.3	17.3	16.6
Gaseous, including	98.9	95.7	100.0
SO ₂	20.7	21.4	22.3
CO	60.6	57	59.8
NO ₂	14.4	14	13.8
Other volatile organic compounds	3.2	3.3	4.1
Total emissions	117.2	113	116.6

Key air protection measures

The Company implemented a wide range of dust control and air protection initiatives in 2018.

Installation of a suction system in the limestone screening unit at OEMK

The suction system cleans the air of the limestone dust that is generated when it is screened and has treatment efficiency of 99.99%. The installation of the suction system has helped to significantly reduce the amount of fugitive emissions.

Reclamation and greening of industrial sites at Lebedinsky GOK

Metalloinvest carried out biological reclamation work on loose dump pits in 2018 by planting acacia (on an area of 10 hectares) as well as lilac saplings and grass (on an area of 15 hectares). In addition, a forest shelter belt was created along the perimeter of the overburden rock. These measures not only had a positive effect on the region's biodiversity (for more details, see the section Maintaining Biodiversity), but also helped to reduce dust generation.

In addition to the biological reclamation of rock and loose overburden, Lebedinsky GOK conducted sanitary and hygienic reclamation on dam levees on its territory

at a tailings dam using loam (9.3 hectares) and black soil (8.5 hectares) and also washed away temporarily unused compartments of the tailings dam with loam (on an area of 300 hectares). These measures helped to restore disturbed lands (for more details, see the section Maintaining Biodiversity) and also fortified dust-forming surfaces.

Dust control measures using reinforcing solutions at Lebedinsky GOK

The Company continued to implement hydro-mechanical dust control measures using ground-based irrigation equipment and small aircraft. Dust-forming areas of tailings facilities were irrigated with the DUSTBIND acrylate-containing agent using aircraft (616 hectares). In addition, the roads of the mining pit, tailings facilities and crushing and sorting plant were treated with the Bischofite binding agent (Bischofite solution). Both agents stabilise dust-forming surfaces, binding solid particles and preventing surface weathering. These measures have significantly reduced dust generation.

Retrofitting and modernisation of the dust collection system at Mikhailovsky GOK

A major environmental event for Mikhailovsky GOK during the reporting period was the start of the modernisation of the dust collection system at the pellet plant's open storage facilities, which mainly tranship pellets. This inevitably results in fugitive emissions of dust from bulk materials due to wind exposure. The new dust collection system will significantly reduce dust generation.

Reconstruction of the suction system at Ural Steel

Ural Steel launched a project in 2018 to rebuild the suction system at blast furnace stock houses. The suction system was rebuilt to ensure that the dust concentration after treatment is no more than 20 mg/m³. New bag filters and blower equipment are slated to be installed as part of the renovations. The project will significantly reduce the dust load on the environment.

Plans for 2019

The following goals were set for 2019 in accordance with the short-term environmental goals of the Group's enterprises:

- reducing dust air pollution due to a decrease in dusty areas at the tailings dam at Lebedinsky GOK;
- reducing emissions of harmful air pollutants by replacing the integrated equipment of the shot-blasting unit, including the suction system at OEMK;
- reducing emissions of harmful air pollutants from emission sources at the blast furnace shop at Ural Steel as a result of the completion of the modernisation of the blast furnace dust collection system.

In the mid term, the Company also plans to equip stationary emissions sources at all plants with automated devices to measure and record pollutant emissions and/or discharges as well as technical equipment to record and transmit information on pollutant emissions and/or discharge indicators.

Managing climate change

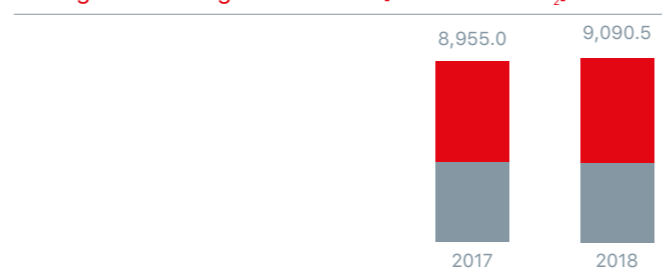
Greenhouse gas emissions are primarily generated by burning natural gas and coal when manufacturing steel products, iron, and HBI/DRI at plants in the metallurgical segment.

In this regard, the Company is implementing a number of measures to monitor greenhouse gas emissions, is a member of various industry associations, and supports initiatives to reduce CO₂ emissions. Each year, the Company receives a certificate of the international Climate Action programme from the World Steel Association.

Total direct carbon dioxide emissions (scope 1) by the metallurgical sector's plants totalled 9,091,000 tonnes of CO₂ equivalent during the reporting period, up slightly (by 1.5%) from the previous period due to increased production. At the same time, the successful implementation of initiatives to counter climate change has made it possible to significantly reduce (by 21%) specific emissions at Ural Steel and avoid a significant increase at OEMK.

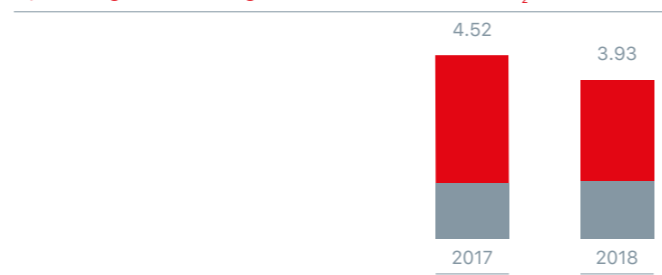
In addition to monitoring emissions at all the holding's enterprises, the Company plans to devote significant attention to reducing direct greenhouse gas emissions and increasing carbon capture. These measures should help Metalloinvest assess its capabilities for cutting greenhouse gas emissions and set reduction targets by 2021.

Total greenhouse gas emissions [t'000 tonnes of CO₂]



Entity	2017	2018
Ural Steel	5,019.2	5,157.6
OEMK	3,935.8	3,932.9

Specific greenhouse gas emissions [tonnes of CO₂/tonne of steel]



Entity	2017	2018
Ural Steel	3.08	2.43
OEMK	1.44	1.50

Direct emissions (scope 1) and specific greenhouse gas indicators are calculated in accordance with WSA methodology.

Cooperation with the World Steel Association

Metalloinvest is a member of the World Steel Association, which is one of the largest international organisations in the industry and brings together more than 160 global steel companies, as well as national and regional industry associations and research institutes. World Steel Association members collectively account for roughly 85% of global steel production.

Metalloinvest is committed to meeting the highest industry standards and regularly hosts representatives of the association who inspect the Company's enterprises for compliance with safety and occupational health requirements. The Company began regularly providing the association with quantitative data on environmental and occupational health and safety indicators as well as personnel indicators during the reporting period. In 2019, Metalloinvest also plans to begin providing quantitative indicators for a life cycle assessment of steel products as part of the Life Cycle Assessment initiative. The association will then use this data to conduct research

to assess the impact that production processes have on the environment.

A key area of cooperation between Metalloinvest and the World Steel Association is their membership in the Climate Action programme, which is the basis of a global initiative to reduce CO₂ emissions in the steel industry. As part of this programme, the Company collects, calculates, and provides data on greenhouse gas emissions generated during production based on the association's methodology and standards. A comparison of data from the Company's different enterprises will determine the most effective tools for reducing CO₂ emissions.

Maintaining Biodiversity

304-1

Despite the fact that Metalloinvest enterprises do not operate in protected areas or areas with a high level of biodiversity, the Company pays considerable attention to monitoring and preserving the biological system in the regions where it operates and provides regular support to organisations involved in preserving and studying typical and unique ecosystems.

304-2

In particular, Lebedinsky GOK specialists actively cooperate with the Belogorye Nature Reserve, whose Yamskaya Steppe national park is located near the plant. A number of activities were implemented in 2018 as part of joint activities, in particular:

- > the condition of and changes in the ecosystem at the Yamskaya Steppe park of the Belogorye Nature Reserve was monitored in order to obtain information on Lebedinsky GOK's impact on the reserve's ecosystems;
- > the plant prepared a report on the results of its dust control and flood protection initiatives on the Yamskaya Steppe's ecosystem.

The monitoring results show that the Company has no significant direct or indirect impact on the biodiversity of the ecosystem. In particular, the average concentration of pollutants

at the border of the sanitary protection zone (including where the Belogorye Nature Reserve is located) within which Lebedinsky GOK operates did not exceed 14.7% of the upper limit of the safe level.

In addition, a scientific study titled Study of the biological diversity (flora and fauna) of the man-made landscapes of Mikhailovsky GOK, which was published at the start of the reporting period, showed that entirely man-made and semi-natural landscapes are suitable for both typical as well as rare species of flora and fauna. The study involved a primary inventory of the flora and fauna within the man-made landscapes at Mikhailovsky GOK, and sites were selected to set up permanent test areas in 2019 to study the condition and abundance of rare plant and animal species within the plant's impact zone.

Plans for 2019

The Company plans to implement a number of measures in 2019 to monitor biological diversity in the regions where it operates.

Research into the biological diversity of the man-made landscapes of Mikhailovsky GOK will continue with the involvement of employees from the Professor Alekhin Central Black Earth State Natural Biosphere Reserve. Plans for 2019 include completing an inventory of biological diversity (flora and fauna) within the man-made landscapes as well as creating a database for further long-term monitoring.

Basic procedures will be developed to comprehensively and continuously monitor the condition of and changes in the Yamskaya Steppe's ecosystem to obtain up-to-date information about Lebedinsky GOK's impact on the reserve's ecosystems and assess the effectiveness of dust control and flood protection measures.

The work will be carried out in two stages:

- > during the first stage, information will be collected about the condition of flora and fauna and small mammals, and an analysis will be conducted on the condition of and changes in the quality of surface water;
- > during the second stage, an optimal network of stationary observations will be devised for terrestrial ecosystems in the Yamskaya Steppe region, the observation materials will be processed, and the results of the assessment of surface water quality (for eight waterways and water bodies) and atmospheric pollution of ecosystems with heavy metals in the area being studied will be presented.
- > The Company plans to monitor the plant cover at the landfill site.

In addition to the monitoring activities, existing environmental policies will be updated in 2019 to include provisions on how to interact with specially protected natural areas.

Energy Consumption and Efficiency

Metalloinvest takes energy consumption very seriously and is committed to improving energy efficiency as its business constantly evolves and production increases. All the Company's enterprises have been certified with ISO 50011 Energy management and meet international energy efficiency requirements.

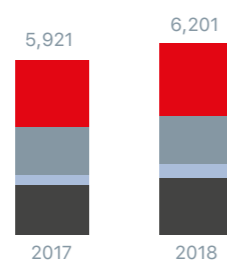
The Company adjusts its **Energy Efficiency Improvement Strategy** in accordance with its current business objectives on an annual basis. The current version of the Strategy was adopted until 2023 and makes energy efficiency a key parameter in the Company's investment projects. The Strategy states that energy efficiency should be integrated with production management system at Metalloinvest's plants during the design stages.

Energy efficiency measures help to reduce growth rates in fuel and electricity consumption. This is particularly important when scaling up production by introducing new equipment and building new facilities, which traditionally involves high energy consumption. Taking into account the results of measures that were adopted to increase energy efficiency, fuel and electricity consumption increased by 1% and 3% in 2018 accordingly.



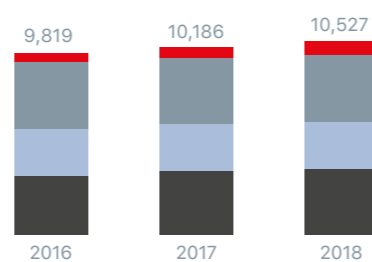
302-1

Fuel consumption [tonnes of oil equivalent]



Enterprise	2017	2018
Ural Steel	2,529	2,512
OEMK	1,510	1,584
Mikhailovsky GOK	246	277
Lebedinsky GOK	1,636	1,828

Changes in electricity consumption [GWh]



Enterprise	2016	2017	2018
Ural Steel	510	619	812
OEMK	3,585	3,565	3,585
Mikhailovsky GOK	2,535	2,579	2,591
Lebedinsky GOK	3,189	3,423	3,539

* The conversion to kJ may be performed using the following ratio: 1 GW h = 3,600,000,000 kJ.

Data on electricity consumption at Ural Steel does not take into account the consumption of electricity generated at its Ural Steel Combined Heat and Power Plant and Turbo Blower Station. Data for 2016 and 2017 was recalculated compared with the 2017 report.

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Fuel consumption by fuel type [000' tonnes of oil equivalent]

	2016	2017	2018	2018/2017
Coal	2,034	1,717	1,451	-15%
Fuel oil	2	3	3	0%
Natural gas	3,891	4,589	4,909	+ 7%
Diesel fuel	79	108	114	+ 6%
TOTAL	6,006	6,417	6,477	+ 1%

* Fuel converted from natural physical units to tonnes of oil equivalent (TOE) in accordance with the ratios proposed by the Ratio Reference Book. Natural gas: ratio = 1.154; diesel: ratio = 1.45; coal: ratio = 0.768-0.876, depending on the deposit. The figure can be converted to kJ using the following ratio: 1 TOE = 29,307,600 kJ.

Energy consumption (coal, natural gas, and diesel fuel) directly depends on the production programme of enterprises and their plans for repair and maintenance work.

During the reporting period, Metalloinvest continued to reduce the share of coal consumption as it gradually replaces it with natural gas. Fuel oil is mainly used as a backup fuel for boilers.

302-1

Share of different types of fuel in total consumption

	2016	2017	2018
Coal	33.87%	26.76%	23.96%
Fuel oil	0.03%	0.05%	0.04%
Natural gas	64.78%	71.50%	74.28%
Diesel fuel	1.32%	1.69%	1.72%

Key measures to improve energy efficiency

Measures to improve energy efficiency aim to accomplish two main goals: reducing energy consumption and reducing energy consumption costs.

- > **Development of internal generation technologies** at production facilities to ensure the continuity of production processes in the event of disruptions in external power supply. The initiative includes the launch of projects to rebuild boiler houses at all the Company's plants to incorporate efficient in-house generation technologies. The initiative is expected to reduce the consumption of natural gas that is traditionally used as a resource for generation along with reducing emissions of greenhouse gas and harmful substances and also lower costs for the maintenance of obsolete equipment. A project was also initiated during the reporting period to modernise the CHP plant at Ural Steel, which entails installing medium-pressure boilers in order to use both natural and blast-furnace gas – a by-product of pig iron production – as a source of energy.
- > **Commissioning of the Lebedi substation** as part of the reconstruction of the Lebedinsky GOK external power supply system, which resulted in significant savings in energy consumption costs. In the long term, the initiative also aims to provide the plant with a sufficient reserve of capacity in order to develop production.

Metalloinvest is an energy supplier in the Orenburg Region city of Novotroitsk where it supplies almost 100% of all energy

Plans for 2019:

Metalloinvest initiated a study of the methods used for reactive power compensation. Unlike active power, which transforms electricity into useful forms of energy, reactive power consists of electricity that is mainly consumed for the ineffective heating of electricity conductors. The Company plans to consider ways to release useful energy from reactive power to increase the total capacity of production units. Examples of such units are diesel locomotives that transport ore from quarries. The increase in their traction power while not losing any speed will contribute to increased process efficiency and overall productivity.

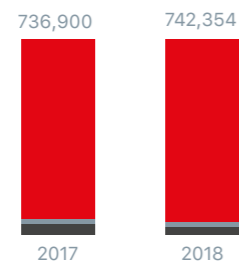
Metalloinvest employees themselves make a significant contribution to improving the Company's energy efficiency. Since 2011, an annual competition has been held for the best innovative proposal to improve energy efficiency. As part of the competition, employees individually or collectively

prepare and submit their proposals, which are considered by special commissions at each of the plants. The best proposals are approved for future implementation and are included in the investment programme and the submitters of winning ideas are rewarded with a cash bonus.

Key facts of the competition for the best innovative proposal to improve energy efficiency

- 93 – the number of participants since the competition was launched in 2011
- 63 – the number of approved proposals since the competition was launched
- RUB 516.5 billion – total reduction of energy costs in monetary terms from 2011 to the end of 2018 due to the implementation of the innovative proposals
- 11 – the number of participants in the competition in 2018
- 11 – the number of approved proposals from the 2018 competition

Thermal energy sales [Gcal]



Entity	2017	2018
Ural Steel	676,313	689,468
OEMK	21,159	21,677
Mikhailovsky GOK	0	0
Lebedinsky GOK	39,428	31,209

* Metalloinvest does not sell electricity. The conversion to kJ may be performed using the following ratio: 1 Gcal = 4,187 kJ.

