EURASIAN RESOURCES GROUP

SUSTAINABLE GREENING OF ERG ENTERPRISES

Transition to BAT principles

ERG: THE WORLD'S LEADING MINING AND METALS COMPANY

Eurasian Resources Group

One quarter of Kazakhstan's MMCs

One of the key power suppliers

Major railway provider in Central Asia

>62 thous. people

Number of personnel

ERG for Kazakhstan's economy

Additionally supported in country's economy

169

Thousands of jobs

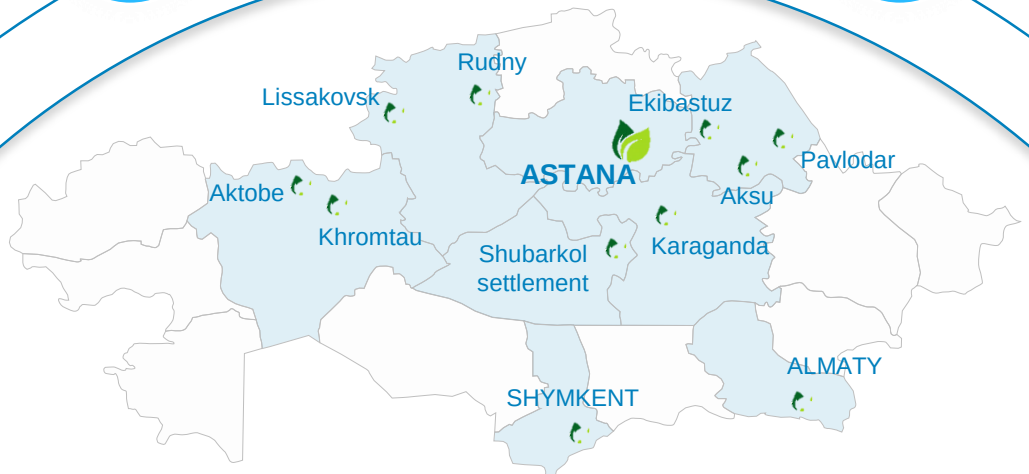
87

Tenge

Additional value added to the economy is created for every 100 tenge of ERG value added due to the Group's activities

Kazakhstan's GDP generated by ERG

2,55%



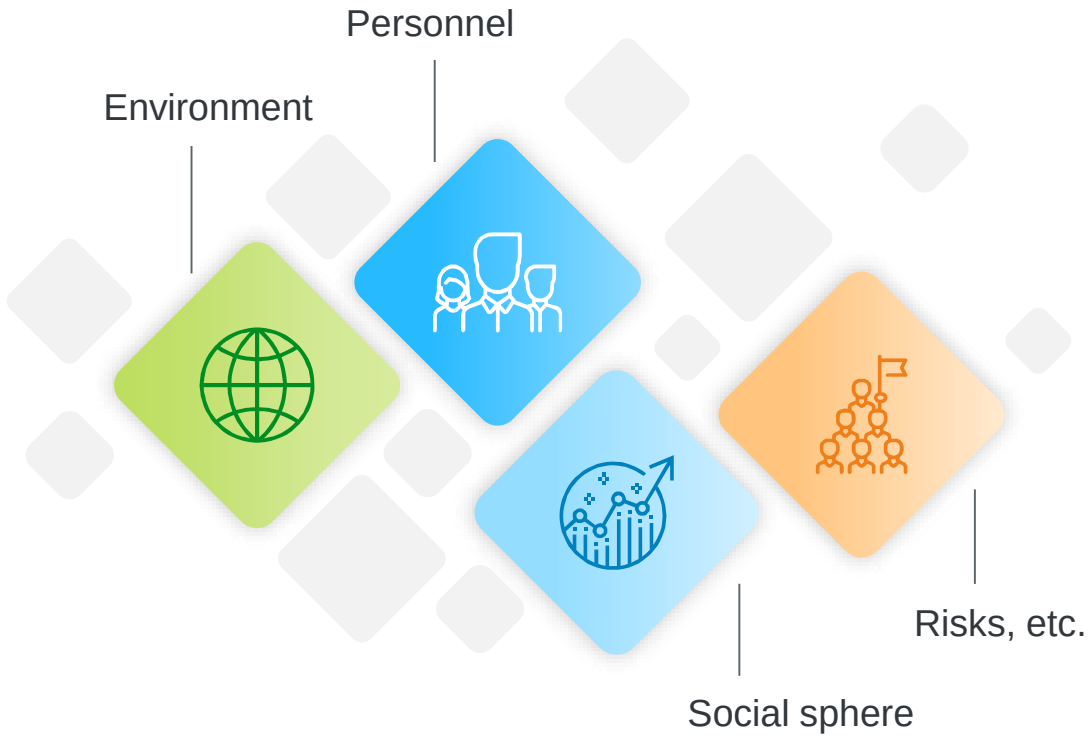
ERG is among the top three best employers in the MMC sector

TOP-5

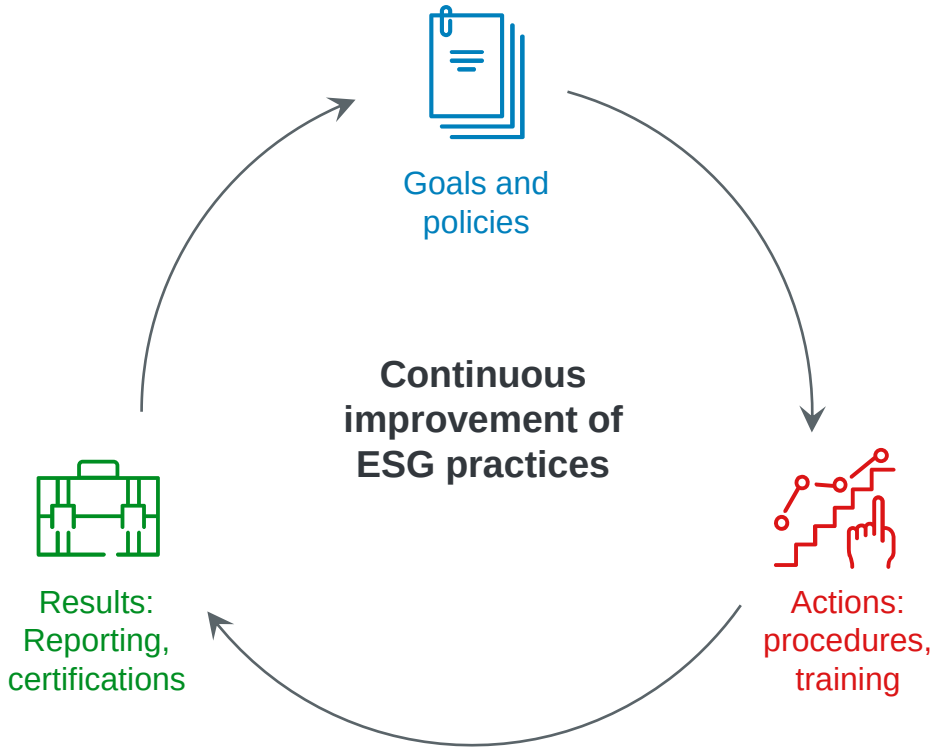
ERG CONDUCTS ITS ACTIVITIES IN ACCORDANCE WITH THE ESG PRINCIPLES

ESG COMMITTEE IN PLACE

ESG Committee prioritizes and monitors ESG directions



The management cycle ensures continuous improvement of ESG practices



DEVELOPED 2030 ESG GOALS

					UN SDGs
E	1. Reduction of ERG environmental impact	**Emissions** • Reduction of environmental emissions (waste, atmospheric air, discharges)	**Water** • Improving the efficiency of water resources utilization	**Climate change** • Greenhouse gas emissions management, renewable energy portfolio development	
S	2. Development of communities and regions of operations	**Well-being of regions** • Creating comfortable living and development conditions for the population of the regions of operations	**Business environment** • Development of local business environment	**Investing in communities** • Development of local entrepreneurs and localization of production	
	3. A happy diverse and healthy team	**Employee well-being and a diverse team** • Ensuring comfortable working conditions and social well-being of employees, a diverse and inclusive team	**Occupational health and safety** • Ensuring global standards of industrial and occupational health and safety	**Employee health** • Promoting the maintenance and promotion of employee health	
G	4. Leadership in business standards	**Business ethics** • Strengthening ethical risk management	**Responsible supplies** • Creating and strengthening a responsible supply chain that integrates ESG principles	**Proactive public position** • Leadership in shaping the ESG agenda in the regions of operations	

Both the contribution to the UN Sustainable Development Goals and the Group's corporate strategy are taken into account

ERG ENVIRONMENTAL STRATEGY
DEVELOPED AND ADOPTED IN 2018

2018 The Group's Environmental Strategy was mainly focused on power assets

The Environmental Strategy is updated annually

As of today, it covers all of the Group's business areas (mining, metallurgy, energy)

The Environmental Strategy is focused on reducing emissions of solid substances to European standards, as a first step towards reducing gaseous emissions.

To achieve the targets, the Environmental Strategy is based on the implementation of the best available techniques

ENVIRONMENTAL OBJECTIVES

Planned investments in execution, **in the order of**

T296 bln

to 2030

ERG'S ENVIRONMENTAL GOALS ARE IN LINE WITH BENCHMARKS AND UNITED NATIONS SDGS.

33%	Reduction of water withdrawal from water bodies compared to 2019 level
30%	Reduction of pollutant discharges to water bodies and filtration fields compared to 2019 levels
56%	Reduction in particulate matter levels compared to 2019 levels
50%	Processing of hazardous waste compared to 2030 waste production
100%	Decommissioning and disposal (destruction) of PCB containing equipment 2025
up to 2 MT	ERG Recycling. Recycling and realization of secondary materials obtained from industrial wastes
	Development and implementation of the Biodiversity Policy

UN Sustainable Development Goals

Ensuring availability and sustainable use of water and sanitation for all

Building resilient infrastructure, promoting inclusive and sustainable industrialization and innovation

Ensuring the transition to sustainable consumption and production patterns

Protecting and restoring terrestrial ecosystems and promoting their sustainable use, sustainable forest management, combating desertification, halting and reversing land degradation and halting biodiversity loss

Note: Investments excluding RES production projects, energy efficiency, etc. Updated Long-term Strategic Plan 2025-2034 Exchange rate $ from group model incl. Forecast. Real prices

PLANNED INVESTMENTS IN GREENING TO 2030
MAKE 296 T BLN

62 projects

28 projects

80 projects

Executed | At the execution stage | Planned for execution

INVESTMENTS

01 Pavlodar region — **219** T bln[1]

02 Kostanay region — **42** T bln[1]

03 Aktobe region — **30** T bln[1]

04 Karaganda region — **5** T bln[1]

Investments excluding RES production projects, energy efficiency, etc.
Updated Long-term Strategic Plan 2025-2034
Dollar rate from group model including Forecast. Real prices

ERG'S CONTRIBUTION TO GREENING THROUGH BAT IMPLEMENTATION

PAVLODAR REGION Investments T219 bln 2030

T bln

Executed | At the execution stage | Planned for execution

Aluminium of Kazakhstan

T112 bln:

13 projects executed:
- Replacement of 4 filters of sintering furnaces No.1,4
- HPP-1. Replacement of ash collecting unit of boiler unit 6
- Automated monitoring system installed in SPZ and emission sources
- Replacement of encapsulated sources of ionizing radiation
- Replacement of PCB containing sovtol transformers
- Tree planting
- Other

7 projects at the execution stage:
- Replacement of 2 filters of sintering furnace No. 5
- HPP-1. Replacement of ash collector of boiler unit No.7
- HPP-1. Pilot testing of COROMAX technology on electric filter of boiler unit No.8.
- Reconstruction of pit water storage pond of Keregetas lime pit
- Reconstruction of waste water treatment facilities
- Reconstruction of storage pond (quarry water)
- Tree planting

21 projects planned for execution:
- Replacement of 8 filters of sintering furnaces
- Replacement of filters of calcination furnaces Reconstruction of dust exhausting plants
- Other

Eurasian Energy Corporation

T57 bln:

10 projects executed:
- PP. Replacement of ash collector of unit 5
- PP. Vostochny open-pit. An automated monitoring unit was installed at the SPZ boundary and emission sources.
- PP. A new bag filter was installed at the railcar dumper.
- Vostochny open-pit. A flushing machine was purchased
- Tree planting
- Other

3 projects at the execution stage:
- EEC. Replacement of ash collector of boiler unit 4b.
- PP. Vostochny open-pit. Tree planting

14 projects planned for execution:
- PP. Replacement of ash collectors of units 1,2,3,4a,8 (as part of reconstruction)
- Vostochny open-pit. Replacement of gas cleaning of the boiler house
- Vostochny open-pit. Modernization of dust exhausting plant of loading points
- Other

Kazchrome. Aksu Ferroalloys Plant

T37 bln:

5 projects executed:
- Melt Shop No.4. Replacement of furnace gas cleaning 44
- Melt Shoop No.1. Replacement of dust exhausting system of dosing departments
- Automated monitoring system installed at the SPZ boundary and emission sources
- Dust suppression in Slag Processing Shop (annually)
- Tree planting

5 projects at the execution stage:
- Melt shop No.4. Replacement of furnace gas cleaning 42
- Melt shop No.2. Replacement of dust exhausting system (dosing)
- Construction of industrial line water treatment facilities with return to technology
- Tree planting

16 projects planned for execution:
- Discharge measurement station. Reconstruction of gas cleaning of furnaces No. 11-12
- Activities to reduce emissions of Melt Shop No.2
- Replacement of gas cleaning of furnaces 47, 48
- Replacement of dust exhausting system
- Other

Kazakhstan Aluminium Smelter

T13 bln:

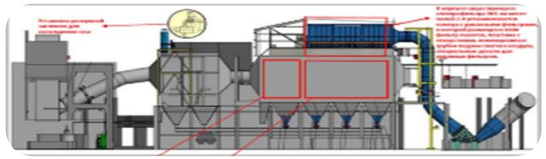
1 project executed:
- An automated monitoring system was installed at emission sources

1 project at the execution stage:
- Tree planting

3 projects planned for execution:
- Replacement of dust exhausting plants. Anode roasting. Storage and handling of raw materials transportation
- Implementation of techniques to reduce sulphur emissions
- Other

Updated Long-term Strategic Plan 2025-2034
Dollar rate from group model including Forecast. Real prices

MAIN EXECUTED PROJECTS FOR BAT IMPLEMENTATION
PAVLODAR REGION



Aluminum of Kazakhstan. Pavlodar Alumina Plant

Project to replace electrostatic precipitators No.1-2 of furnace No.1, No.7-8 of furnace No.4 of the sintering shop with hybrid ones, ThyssenKrupp, Germany, filters No.1,2 (2021); No.7,8 (2024).

Investments: T 14 bln

Field No. 1 electrical

Fields Nos.2-4 bag

Kazchrome. Aksu Ferroalloys Plant

Project for filter replacement of furnace 44, Czech Republic, (2021)

Investments: T 6,5 bln

Aluminium of Kazakhstan. HPP-1

Replacement of ash collector of boiler unit No. 6, Italy (2023)

Investments: T 4,5 bln

Aluminium of Kazakhstan. HPP-1

Pilot tests of COROMAX technology are underway at the electrostatic precipitator KA No. 8 of HPP-1, FLSmidh, Denmark, (2022)

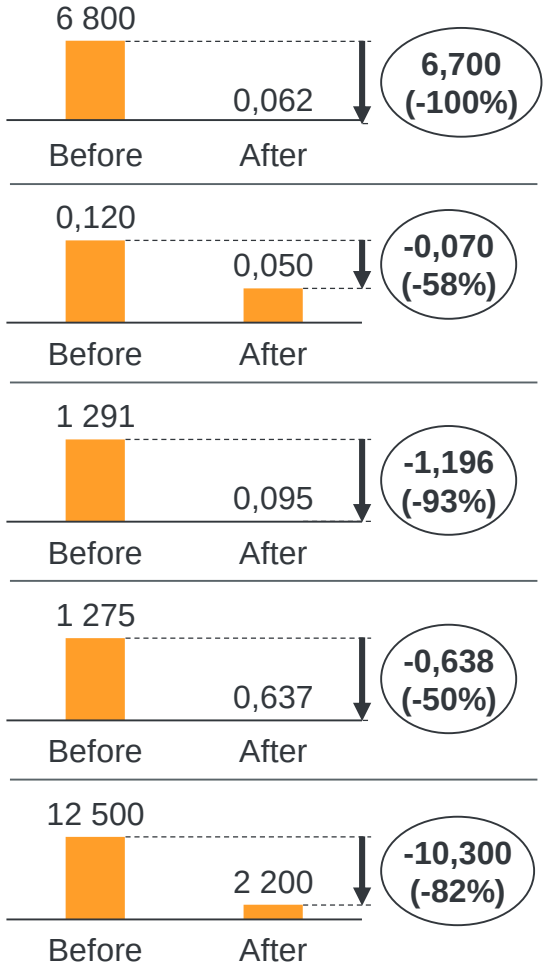
Investments: T 1,3 bln

EEC. Power Plant

Project on ESP replacement at Unit 5, France, (2020)

Investments: T 4,2 bln

Result, thousand tons per annum



ERG'S CONTRIBUTION TO GREENING THROUGH BAT IMPLEMENTATION

AKTOBE REGION Investments T30 bln 2030

T bln

Executed At the execution stage Planned for execution

Kazchrome. Aktobe Ferroalloys Plant

T23 bln:

8 projects executed:
- Melt Shop Nos.1,2 Modernization of gas cleaning. Installed 2 new high-efficiency bag filters behind furnaces of Melt Shop No.2 instead of electrostatic precipitators and one dust exhausting system bag filter of Melt Shop No.1.
- Reconstruction of dust exhausting plants MB 04-06 of Melt Shop No.4
- Dust suppression and fastening of dusty surfaces of slag dump, (annually)
- Project on storm industrial effluents use in technology
- Renewal of the source, use of treated water-Automatic monitoring system installed at SPZ and emission sources
- Dust exhausting plant replacement project at crushing and grading complex
- Tree planting
- Other

2 projects at the execution stage:
- Dust suppression and fastening of dusty surfaces of slag dump, (annually)
- Tree planting

3 projects planned for execution:
- Replacement of dust exhausting plants. Crushing, transportation units
- Discharge-measurement station. Construction of local wastewater treatment facilities
- Tree planting

Kazchrome, Donskoy Ore Mining and Processing Plant:

T7 bln:

6 projects executed:
- Project on the use of quarry and mine water at the plant (elimination of pollutant discharges)
- Automatic monitoring system installed at SPZs
- Automatic monitoring system installed at emission sources.
- Project on installation of dust suppression system for open warehouse DOF-1 (commissioning works are in progress)
- Tree planting
- Other

1 project at the execution stage:
- Tree planting

3 projects planned for execution:
- Installation of corner burners on the roasting furnace of the heating and roasting zone UPO-1
- Installation of corner burners on the roasting furnace of the heating and roasting zone UPO-2.
- Replacement of dust exhausting plants. Crushing, transportation, etc. units

Updated Long-term Strategic Plan 2025-2034
Dollar rate from group model including Forecast
Real prices

MAIN PROJECTS EXECUTED FOR BAT IMPLEMENTATION
AKTOBE REGION

Kazchrome. Aktobe Ferroalloys Plant. Project on reconstruction of dust exhausting plants MB 04-06 of Melt Shop No. 4, manufactured in the Russian Federation, (2021)

Investments: T 0,747 bln

Kazchrome. Aktobe Ferroalloys Plant. Dust suppression and fastening of dusty surfaces of slag dump was executed, (annually)

Investments: T 0,019 bln

Kazchrome. Aktobe Ferroalloys Plant. The project on modernization of gas purification of Melt Shops Nos.1,2 was executed. Two new bag filters were installed behind the furnaces of Melt Shop No.2 to replace electrostatic precipitators and one dust exhausting system bag filter of Melt Shop No.1 (2023).

Investments: T 14 bln

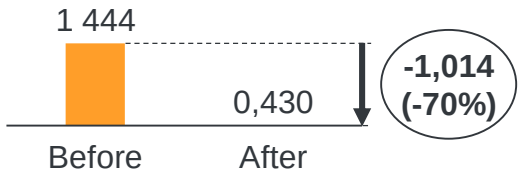
Kazchrome. Aktobe Ferroalloys Plant. The project on construction of local treatment facilities was implemented. Resumption of source, water use after treatment (2022)

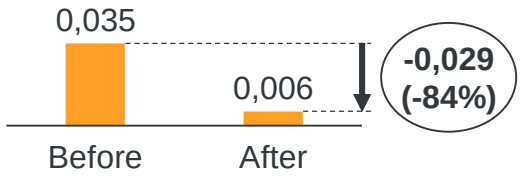
Investments: T 0,132 bln

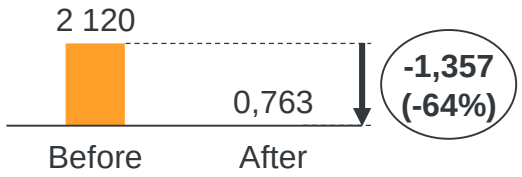
Kazchrome. Donskoy Ore Mining and Processing Plant. A dust suppression project was implemented at the finished product warehouse of DOF-1 (Borey dust suppression system was installed in the product unloading areas) (2023)

Investments: T 0,255 bln

Result, thousand tons per annum







Reduction of process water intake by 438 thousand m3/year

Reduction of dust emissions **by 80%**

ERG'S CONTRIBUTION TO GREENING THROUGH BAT IMPLEMENTATION

KOSTANAY REGION Investments T42 bln 2030

T bln

Executed | At the execution stage | Planned for execution

Sokolov-Sarbay Mining Production Unit (SSGPO):

T41 bln:

12 projects executed:
- Project on using quarry water for dust suppression of ash dump with exclusion of pollutant discharges
- Changing the cooling of sampling points of HPP from potable to technical water
- Flushing machine were purchased for dust suppression on roads and finished products warehouse.
- Project of surface drainage of Rudny site from flood waters and their application in the process at the concentration plant
- Automatic monitoring system installed at SPZ and emission sources
- Tree planting
- Other

4 projects at the execution stage:
- Replacement of ash collector of boiler unit No. 1 at Rudny HPP (as part of reconstruction)
- Main designing solution for replacement/modernization of exhaust and gas-cleaning equipment
- Conversion of Kachar heating center from coal to gas is in the process of completion
- Tree planting

14 projects planned for execution:
- Pellet Plant. Modernization of waste gas system for roasting machines
- Pellet Plant. Ore Preparation and Processing Plant. Machinery and Repair Shop. HPP. Replacement of dust exhausting plants. Crushing, transportation units
- Replacement of 4 ash collecting units at HPP in Rudny.
- Replacement of dust exhausting plants. Crushing, transportation, drying units

Aluminum of Kazakhstan. Krasno-Oktyabrskoye bauxite mining unit:

T1 bln:

2 projects executed:
- Project for installation of oil separators at the quarry water discharge of the Vostochno-Ayatskoye deposit of the bauxite mine
- Automated monitoring system installed at the discharge outlet

1 project planned for execution:
- Installation of hydrocyclones at 2 outlets of the Krasnogorsk bauxite mine at the discharge to Lake Taksor

Updated Long-term Strategic Plan 2025-2034
Dollar rate from group model including Forecast
Real prices

MAIN PROJECTS EXECUTED FOR BAT IMPLEMENTATION
КОСТАНАЙСКОЙ ОБЛАСТИ

SSGPO. Project on application of quarry water for dust suppression of ash dump with elimination of pollutant discharges was implemented (2021)

SSGPO. 3 pcs. of flushing machines were purchased for dust suppression on roads and finished goods warehouse, 3 pcs. were re-equipped.

Investments: T 2 bln

SSGPO. The project to replace coal-to-gas at the Kachar heating center is at the finishing stage.

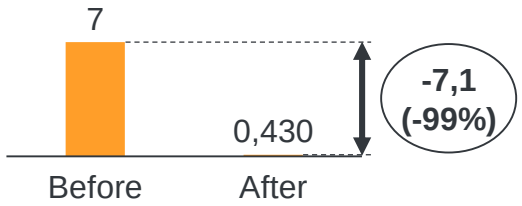
In 2023, 2 natural gas-fired hot water boilers put into operation

Aluminium of Kazakhstan. KBRU. The project for installation of oil separators at the Vostochno-Ayatskoye bauxite mine's pit water discharge was realized (2022).

Result, thousand tons per annum

Reduction of pollutant discharge to **4**

Dust emission control



Reduction of petroleum product discharge by **0,004**

ERG'S CONTRIBUTION TO GREENING THROUGH BAT IMPLEMENTATION
КАРАГАНДИНСКАЯ И ТУРКЕСТАНСКАЯ ОБЛАСТИ Investments T5 bln 2030

T bln

Executed | At the execution stage | Planned for execution

Karaganda region: Kazchrome, Kazmarganets Mining Department. Manganese of Zhairem. Shubarkol Komir
Turkestan region: 3-Energoortalyk

5 projects executed:
Kazmarganets Mining Department:
- Construction of a wastewater treatment facility to treat wastewater from the storage pond of the TUR mine from oil products was completed

Shubarkol Komir:
- Reconstruction of stormwater drainage system with further use of water for irrigation of roads against dusting was performed
- Tree planting

3-Energoortalyk:
- An automated monitoring system was installed at emission sources
- Tree planting

5 projects planned for execution:
Manganese of Zhairem:
- Purchase of a waste utilization unit

Shubarkol Komir:
- Replacement of dust exhausting plants at By-product Coke Plant and boiler houses “West”, “Center”
- Purchasing of a disposal unit

5 projects at the execution stage:
Shubarkol Komir:
- Treatment facilities reconstruction project for domestic and flood waters from the territory of the enterprise and shift camp
- Tree planting (annually)
- Other

Manganese of Zhairem:
- Construction of wastewater treatment facilities for the shift camp
- 3-Energoortalyk:
- Tree planting

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Real prices

MAIN IMPLEMENTED ACTIVITIES WITHIN THE WASTE MANAGEMENT PROGRAMS | 2023 PROCESSED: 2 769 422 t

PAVLODAR REGION

Aksu Ferroalloys Plant

- Processing of current FeCr slags
- Aglomeration of dry dusts
- Dust processing by gas cleaning and dust exhausting plants
- Conversion of boiler house (ROK-2) from coal to ferrogoaz

Aluminium of Kazakhstan

- Reuse of PAP's alumina slime waste
- Reuse of waste bauxite red slime at PAP

EEC

- PP Processing of ash and slag and polymer waste into ash and polymer products
- Vostochny open-pit increase of waste dump storage in the internal dumping area

KAS

- Recycling and sale of waste (linings, dust)

AKTOBE REGION

Aktobe Ferroalloys Plant

- Recycling of current slag from production of Low-carbon, Medium-carbon, High-carbon FeCr
- Recycling of dust from gas cleaning of Melt Shop No.2, Melt Shop No.1 and Melt Shop No.4
- Recycling of mature slags of refined ferrochrome
- Reuse of chrome-spinel powder
- Agglomeration of poor ore and cake in Aksu with chrome spinel powder
- Recycling of wet gas cleaning waste, i.e. cake

DGOK

- Development of waste dumps at the Obyedinenny open-pit mine
- Processing of current and mature slimes (Slimes-2)
- Processing of AkzharChrome
- Mechanical exhaust ventilation plant.
- Slimes thickening at FOOR

Kazmarganets Mining Department

- Processing of sludge from TUR

KOSTANAY REGION

SSGPO

- Reuse of tailings from dry magnetic separation and coarse magnetic ore picking
- Waste storage in the internal dumping area

Aluminium of Kazakhstan

- **KBRU** waste storage in the internal dumping area

KARAGANDA REGION

Shubarkol Komir

- Waste storage in the internal dumping area

Waste recycling is accompanied by marketable product production

HAZARDOUS WASTE PROCESSING ACTIVITIES
FOR 50% OF VOLUME OF WASTE PRODUCTION BY 2030

List of hazardous waste

Slimes and residues on filters from gas cleaning
- TNC Kazchrome JSC Aksu Ferroalloys Plant

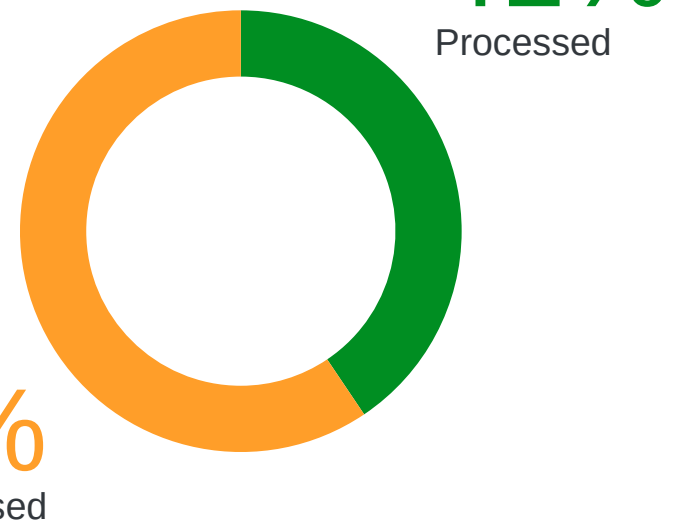
Solid waste from gas cleaning
- Aksu Ferroalloys Plant
- Aktobe Ferroalloys Plant
- Donskoy Ore Mining and Processing Plant

Sludge and residues on filters from gas cleaning
- Sokolov-Sarbay Mining Production Unit

Other hazardous waste recyclable only by special organizations
- Fluorescent lamps and other mercury-containing waste, insulation materials containing asbestos, PCBs (polychlorinated biphenyls), lead batteries, paint and varnish waste containing organic solvents or other hazardous substances, wood containing hazardous substances, etc.

Processing activities
- Reuse/return to production on its own and other Assets
- Handing over to specialized organizations for recycling, destruction and burial

Processing volumes in 2023 amounted to 41%



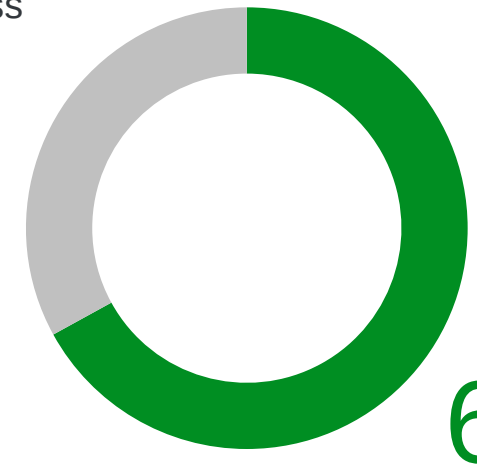
The volume of hazardous waste production within the Group from the total waste production is about 0.1%

DISPOSAL OF HAZARDOUS PCB - CONTAINING EQUIPMENT AND WASTES

GOAL 100% 2025

Volumes of PCB disposal since 2014, pcs.

33%
In the process of disposal



67%
Disposed

- ERG has been implementing PCB Decommissioning and Destruction Programs since 2013
- PCBs: equipment is packaged in accordance ith UN requirements
- Destroyed by specialized organizations under contract in EU countries, such as France and Belgium (there are no such plants in the Republic of Kazakhstan)
- Transported to EU countries, by air transport

The destruction of PCB-containing equipment and waste is performed in accordance with the UN Convention on Persistent Organic Pollutants and the legislation of the Republic of Kazakhstan

PCB-containing equipment/waste: capacitors, transformers, oil circuit breakers

MAIN WASTE PROCESSING ACTIVITIES UNDEVostochny open-pitAY

WASTE PROCESSING (ERG Recycling)

Processing of refinery slags of Aktobe Ferroalloys Plant, th. tons

2019-2020	2021	2022	2023
150	**152**	**200**	**250**

Slag crushed stone, sand

Concentrate

Stabilization of refinery slags from Aktobe Ferroalloys Plant (Melt Shop No.2)

Before stabilization → After stabilization

Gas cleaning dust briquetting section

Wet gas cleaning sludge (cake), previously transferred to third-party organizations for disposal, has been used in the production of briquettes and slag blocks. The volume of dust from gas treatment plants processed into briquettes is about 30 thousand tons

AUTOMATED MONITORING SYSTEM INSTALLATION PROJECTS AT ERG ENTERPRISES

2019	2021-2022	2021-2023	2024
1 station has been installed in PAP's SPZ Aluminium of Kazakhstan	**7 stations** has been installed in SPZ Kazchrome (DGOK, AksFP, AktFP), EEC (Vostochny open-pit, PP). Investments – **T 1,3 bln**	Automated monitoring systems installed at 53 emission sources and two water discharge spillways. Investments – about **T 16 bln**	Commissioning and adjustment of equipment, connection of automated monitoring system to the information system of a governmental agency

Data from the automated monitoring system at the SPZ boundary of Aluminium of Kazakhstan are broadcast online on LED monitors in Pavlodar city

EXECUTION OF SIGNIFICANT PROJECTS OF THE ERG ENVIRONMENTAL PROGRAM
LANDSCAPING MEASURES

Number of trees by Group, pcs.

Actual by regions for the period from 2022-2024, pcs.

PAVLODAR[1] REGION	AKTOBE REGION	KOSTANAY REGION	KARAGANDA REGION	TURKESTAN REGION
1 785 886	44 345	40 250	4 993	5 633

1. In accordance with the memorandum on mutual cooperation between the Akimat of Pavlodar region ERG will plant 1,714,200 units of green plantings on the territory of the state forest fund according to the signed agreement

ONGOING PROJECTS

- Public hearings on projected activities
- Development of manuals for environmental education
- Informing stakeholders about ERG's environmental activities on ERG's official website, in mass media and social networks, Sustainability report
- Online and offline meetings with non-governmental organizations, feedback to be taken into account in the Group's activities. For example: to assess material sustainability issues, questionnaires and interviews with members of the public and interested stakeholders. The feedback received allows the Group to improve its sustainable development activities.
- Development of green spaces as a means to reduce and adapt to climate change
- Involvement of NGOs in the implementation of biodiversity conservation and other environmental activities
- Conducting tours around the Group's enterprises in the regions for the public concerned, students, etc.

To be the best at what we do.

Develop together with the world, staying true to your values.

To ensure the prosperity of those who rely on us through careful unlocking the potential of the Earth and humanity.

THANK YOU FOR YOUR ATTENTION!