



SUSTAINABILITY REPORT: E ASPECT

ENVIRONMENTAL PROTECTION

MANAGEMENT APPROACH

GRI 3-3, 2-23, 2-25

Despite its relatively low level of direct environmental impact due to the nature of its business, Kazakhtelecom JSC recognizes its environmental responsibility and makes efforts to minimize its footprint. The Company consistently implements approaches aimed at the rational use of resources, increased energy efficiency, and improvement of production processes.

The Company has developed several internal regulatory documents governing environmental protection activities. These provisions are mandatory for all Company employees:

- › Environmental Policy;
- › Kazakhtelecom JSC Low-Carbon Development Program for 2022–2032 (hereinafter – LCDP);
- › ESG Practices Development Roadmap for 2024;
- › Internal Environmental Audit Program of Kazakhtelecom JSC;
- › Biodiversity Management and Conservation Guide of Kazakhtelecom JSC;

- › Land Resources Monitoring, Reporting and Reclamation Guide of Kazakhtelecom JSC;
- › Documented procedure for identifying hazards, environmental aspects, and risk assessment;
- › Documented procedure for identifying legal and other requirements related to occupational health, safety, and environmental protection;
- › Documented procedure for monitoring occupational health, safety, and environmental indicators;
- › Documented procedure for production and consumption waste management;
- › Documented procedure for emergency preparedness and response.

Kazakhtelecom JSC implements its Environmental Policy, the execution of which is overseen by the executive management. The Policy stipulates role distribution, compliance with environmental legislation, continuous performance improvement, employee training, impact reduction target-setting, and the promotion of environmental culture.

The Company operates an Environmental Management System (EMS), which is an integral part of the corporate governance system and a component of non-financial risk management. EMS covers processes for reducing pollutant emissions, implementing environmentally friendly data transmission technologies, energy consumption management, and equipment modernization. The Company is ISO 14001 certified, confirming its compliance with advanced environmental management standards.

In 2024, on the Company’s initiative, an external environmental audit was conducted covering Kazakhtelecom JSC’s operations for 2021–2023. The audit analyzed key environmental aspects, including energy consumption, air emissions, waste management, ozone-depleting substances usage, document control, and the implementation of environmental protection measures. The audit covered the Central Office and regional branches in all regions. It confirmed the implementation of a systematic environmental management approach, including the adoption of energy-saving technologies, the presence of a documented waste management procedure, the organization of fuel storage and accounting, and the launch of the “Green Office” initiative. A number of recommendations were also provided to further improve the effectiveness of the environmental management system.

ORGANIZATIONAL STRUCTURE OF ENVIRONMENTAL MANAGEMENT

Environmental management at Kazakhtelecom JSC operates on two levels. Operational coordination and monitoring of environmental compliance—including occupational safety and health—are handled by the relevant department at both the head office and across the branch network. Strategic management, including

environmental risk planning and assessment, hazard identification, and the integration of relevant approaches into business processes, is the responsibility of the Chief Administrative Officer.

PRECAUTIONARY PRINCIPLE

Kazakhtelecom JSC applies the precautionary principle in environmental protection, considering it part of a systematic approach to managing environmental aspects. The Company operates a risk management system that includes the assessment of environmental risks at both the project planning and operational stages.

A documented procedure for hazard identification, environmental aspect assessment, and risk evaluation has been implemented to ensure a preventive approach. This procedure covers both current impacts and potential future consequences.

The Company conducts Environmental Impact Assessments (EIA) in accordance with the legislation of the Republic of Kazakhstan and adheres to best international practices in environmental responsibility. In decision-making, the Company takes into account long-term environmental impacts even in cases of scientific uncertainty, consistent with the precautionary principle.

Additionally, risk mitigation measures are embedded in the Environmental Policy, internal environmental audit processes, and the corporate continuous improvement system.

The Company has identified the following priority areas for environmental development:

- › Minimization of negative environmental impacts;
- › Recognition of the critical importance of climate change;
- › Compliance with national and international environmental laws and standards;
- › Adherence to sustainable development principles in planning and operations;
- › Accountability of Company leadership at all levels for the effective operation of the environmental management system;
- › Disclosure of accessible and transparent environmental information to all stakeholders.





COMPLIANCE WITH ENVIRONMENTAL LEGISLATION OF THE REPUBLIC OF KAZAKHSTAN

GRI 2-27

Kazakhtelecom JSC annually implements activities aimed at reducing the negative environmental impacts of its operations.

In 2024, no cases of environmental legislation violations were recorded. The Company was not subject to any non-financial sanctions or other administrative penalties in the area of environmental protection.

ENVIRONMENTAL PROTECTION EXPENDITURES, KZT THOUSAND

Expenditure item	2022	2023	2024
Development of EIAs, emissions standards, production environmental monitoring, category confirmations	0	82.2	8,250.0
Payments for negative environmental impact, including:	12,526.7	12,500.0	14,542.0
- from stationary sources			2,066.2
- from mobile sources	1,686.8	0	12,448.8
Total	12,526.7	12,582.2	22,792.0

PLANS FOR 2025

Introduction of quantitative targets for environmental aspects (waste and GHG emissions).



KAZAKHTELECOM JSC’S CONTRIBUTION TO THE “TAZA KAZAKHSTAN” INITIATIVE

In 2024, Kazakhtelecom JSC joined the large-scale nationwide environmental campaign “Taza Kazakhstan” (“Clean Kazakhstan”), aimed at raising environmental awareness and improving the state of the environment across the country. The initiative, which covered all regions of Kazakhstan, united millions of citizens, government agencies, and businesses around the idea of environmental renewal and a sustainable future.

As part of its participation in “Taza Kazakhstan,” the Company’s employees took part in environmental clean-up days, site-cleaning campaigns, and the improvement of public spaces throughout Kazakhstan. These events were held both in major cities and in remote settlements, demonstrating the Company’s commitment to the principles of social responsibility and care for the environment.

“Kazakhtelecom Alley” in the Astana Botanical Garden

A separate and significant event was the environmental project “Kazakhtelecom Alley” in the Astana Botanical Garden, implemented in honor of the Company’s 30th anniversary. As part of this initiative, Kazakhtelecom JSC planted 30 coniferous trees in the Botanical Garden, symbolizing care for biodiversity, the reduction of the carbon footprint, and a contribution to the sustainable development of the capital. The tree planting ceremony was attended by the Company’s senior management, including the Chairperson of the Management Board and the Chief Financial Officer, highlighting the importance of the environmental agenda both at the corporate level and across society as a whole.

Environmental Awareness and Employee Engagement

In accordance with the approved Action Plan to support the national project “Taza Kazakhstan”, Kazakhtelecom JSC conducted a series of activities aimed at raising environmental awareness and fostering sustainable habits among employees, including:

- › Educational webinars on sustainable development, biodiversity, climate, and renewable energy.
- › The launch of the “Eco Wardrobe” and “My Eco Tip” challenges, aimed at encouraging sustainable practices.
- › Eco-Fashion Week, featuring a webinar on sustainable clothing practices.

Participation in the “Taza Kazakhstan” campaign marked a continuation of Kazakhtelecom’s strategic ESG course and reaffirmed the Company’s commitment to environmental values and social responsibility.

22,792  81.1%

KZT thousand

environmental protection expenditures in 2024



AIR EMISSIONS

GRI 3-3

Systematic reduction of air pollutant emissions is one of the key components of Kazakhtelecom JSC’s environmental protection activities. The Company annually implements measures aimed at reducing atmospheric emissions and minimizing their adverse impact on air quality.

Given that the main sources of emissions are boiler units and motor vehicles, special attention is paid to their timely maintenance. Generators, gasoline units, and vehicles are operated in strict compliance

GRI 305-7

STRUCTURE OF ATMOSPHERIC POLLUTANT EMISSIONS, TONNES⁷

Pollutants	2022	2023	2024
NOx	73	5.5	5.2
SO ₂	31	7.2	5.4
CO	109	18.5	21.3
Dust	57	18.3	32.7
Other	23	2.8	1.03
Total	294	52.4	65.6

In 2024, total emissions of regulated atmospheric pollutants amounted to 65.6 tonnes. The calculation of pollutant emissions was carried out in accordance with the approved Methodology for determining environmental emission standards.

In the reporting year, instrumental measurements were conducted at stationary sources

with manufacturers’ recommendations. During periods of low activity, equipment is switched to reduced energy consumption mode; in case of power outages, stationary generators compliant with environmental requirements are used.

Air emissions reporting is compiled on a regular basis and submitted to authorized government bodies on a quarterly basis, in accordance with the legislation of the Republic of Kazakhstan.

of Kazakhtelecom JSC to determine permissible concentration levels. In cases of identified exceedances, the Company promptly took corrective measures. In line with environmental legislation, the Company continues developing maximum permissible emission (MPE) projects for facilities with autonomous heating systems and diesel generator installations.

GRI 305-6

VOLUME OF OZONE-DEPLETING SUBSTANCE (ODS) EMISSIONS, KG CFC-11-EQ.⁸

Indicator	2022	2023	2024
Imported	0	0	0
Exported	0	0	0
Produced	124.7	105.4	105.4

In 2024, in accordance with the methodology of the Montreal Protocol on Substances that Deplete the Ozone Layer, the Company continued calculations based on refrigerants used in refrigeration systems. The inventory included the following substances: chlorodifluoromethane (R-22), difluoromethane (R-32), and mixtures R-407C and R-410A used at Kazakhtelecom JSC facilities. No changes in consumption volumes were identified in 2024.

The Company accounts for refrigerants in cylinders and kilograms. An ozone depletion potential (ODP) coefficient of 0.055 was applied in emission calculations.

Plans for 2025 and the medium term

In 2025, the Company plans to implement the following measures to reduce air pollutant emissions:

- › Introduction of quantitative targets for reducing air pollutant emissions.

65.6

tons

is the total volume of pollutant emissions into the atmospheric air in 2024

⁷ The methodology for reporting data for 2023-2024 has changed. For 2022, total emissions of greenhouse gases (regulated + unregulated) were reported. Starting from 2023, only regulated emissions are reported.

⁸ Trichlorofluoromethane (CFC-11 equivalent).



WATER RESOURCES

GRI 3-3

Kazakhtelecom is committed to the rational use of water resources and minimizing its impact on aquatic ecosystems. The main source of water supply is municipal water networks; the Company does not use wells or other alternative sources. Effective water resource management is a priority of the Environmental Policy and is regulated by internal procedural documents.

Water consumption is solely for domestic and drinking needs. All water supply systems are equipped with water consumption metering devices.

91.2

thousand m³
water withdrawal in water-scarce regions

Water Consumption

GRI 303-3

TOTAL WATER WITHDRAWAL, THOUSAND M³

Indicator	2022	2023	2024
Total water withdrawal	257.2	250.3	274.2
Fresh water	257.2	250.3	274.2
Other water	-	-	-

GRI 303-3

The primary source of water supply for Kazakhtelecom is municipal water utilities. The Company does not withdraw water from surface or underground sources, including in water-stressed areas. In 2024, total water consumption increased by 9.5%.

GRI 303-3

SPECIFIC WATER CONSUMPTION

Indicator	2022	2023	2024
Production indicators	5,445	5,449	5,298
Specific water consumption, thousand m ³ /thousand units	0.047	0.046	0.0517
Revenue of Kazakhtelecom JSC, KZT million	635,665	669,467	309,484
Specific water consumption, thousand m ³ /KZT million	0.00040	0.00037	0.000886

Wastewater Discharge

GRI 303-4

The Company uses water solely for domestic purposes. All wastewater is discharged into centralized sewer systems in accordance with contractual obligations.

As wastewater is discharged into centralized sewer systems, the Company complies with general requirements established by local authorities and municipal water utilities for wastewater discharge.

The Company does not have internal standards for wastewater quality, as all wastewater is discharged into municipal sewer systems, where treatment is regulated by local water utilities. Wastewater quality control is carried out at the level of city treatment facilities.

TOTAL VOLUME OF WASTEWATER DISCHARGE, THOUSAND M³

Indicator	2022	2023	2024
Total discharge	245.9	251.0	121.1
Fresh water	245.9	251.0	121.1
Other water	-	-	-

20.8

thousand m³
total discharge of fresh wastewater in water-stressed regions in 2024

GRI 303-5

Total water consumption in 2024 amounted to 153.2 thousand m³. In water-stressed regions, total water consumption in 2024 amounted to 70.4 thousand m³.

Plans for 2025 and the medium term

The Company plans to implement the following measures for the rational use of water resources:

1. Development and approval of the Water Resource Management and Conservation Manual.
2. Disclosure of specific water consumption per physical and/or monetary unit.



WASTE MANAGEMENT

GRI 3-3, 306-2

The Company places great importance on the responsible and safe management of waste, aiming to reduce waste generation and increase the share of recycled waste.

Kazakhtelecom operates under the documented procedure “Production and Consumption Waste Management”, which outlines the processes for the collection, temporary storage, disposal, removal, and monitoring of generated waste in accordance with the environmental legislation of the Republic of Kazakhstan. Waste volumes are recorded in journals and based on waste movement documentation (write-off acts, transfer/acceptance, disposal, etc.).

GRI 306-3

VOLUME OF WASTE GENERATED, TONNES

Indicator	2022	2023	2024
Hazardous waste	29.0	53.5	114.4
Non-hazardous waste	12.7	7.3	42.0
Total	41.7	60.7	156.4

In 2024, the total volume of generated waste amounted to 156.4 tonnes (excluding municipal solid waste). The increase in both hazardous and non-hazardous waste in 2024 was due to wear and tear of equipment no longer suitable for its intended use. All hazardous and non-hazardous waste was disposed of by a third-party organization under a contract.

Each year, the Service Factory signs contracts with specialized organizations for the disposal and recycling of the following types of Company waste:

- › Electronic and electrical equipment (climate control systems, household appliances, electricity meters, backup power units (diesel generators, mini-power plants), UPS systems, EPU equipment, transformer substations, power tools, etc.);
- › Chemical power sources (various types of batteries);
- › Mercury-containing waste (fluorescent lamps);
- › Used oil (from diesel generators, vehicles, transformer substations, etc.);
- › Paper waste;
- › Packaging (all types of packaging materials).

The increase in waste volumes in 2024 was due to physical degradation of batteries, fluorescent lamps, and used oils.

GRI 306-5

VOLUME OF WASTE DISPOSED BY HAZARD CLASS, TONNES

Indicator	2021	2022	2023	2024
Hazardous waste	n/a	29.0	53.5	114.4
Non-hazardous waste	n/a	12.7	7.3	42.0
Total disposed	n/a	41.7	60.7	156.4

In 2024, there was an increase in the volume of waste transferred for disposal due to the physical deterioration of batteries, mercury-containing lamps, used oil, as well as non-hazardous waste such as electronic meters, generators, air conditioners, and scrap metal. These types of waste are subject to disposal in accordance with environmental protection and sanitary-epidemiological regulations.

Disposal of Decommissioned Telecommunication Equipment

Kazakhtelecom JSC directs decommissioned telecommunication assets (client digital equipment such as STB set-top boxes, CDMA terminals, modems, routers, multimeters, modules, control boards, terminals, and other devices) and office equipment to third-party organizations that auction them off. If in proper condition, decommissioned telecommunication equipment is used as spare parts in accordance with the Organization Standard “Rules for the Dismantling and Disposal of Decommissioned Telecommunication Assets,” approved by the Company’s Order. Some decommissioned equipment (including copper cable communication lines and cable scrap) is transferred to specialized organizations for storage and disposal of ferrous and non-ferrous metals.

Plans for 2025

The Company plans to carry out the following activities to improve waste management:

- › Development and approval of the Production and Consumption Waste Management Program of Kazakhtelecom JSC.

156.4

tons

total waste disposed of in 2024



IMPACT ON BIODIVERSITY

GRI 3-3, 413-1

According to its Environmental Policy, Kazakhtelecom JSC is committed to promoting biodiversity and refraining from conducting activities in protected areas.

To preserve flora and fauna at construction and installation sites (including cable laying), the Company conducts mechanical and biological reclamation to minimize soil erosion and restore vegetation on disturbed land plots.

All telecommunication equipment of Kazakhtelecom JSC is located within residential areas or along existing infrastructure and does not impact specially protected natural areas, including nature reserves. Nevertheless, since 2023, the Company has been voluntarily assessing and monitoring the impact of its operations on biodiversity in its areas of presence.

In 2023, such an assessment was conducted in remote areas with minimal anthropogenic influence. Monitoring was carried out in accordance with internal Guidelines for the Assessment and Monitoring of Biodiversity and Land Resources.

In 2024, as part of the implementation of the “Guidelines for Biodiversity Management and Conservation,” Kazakhtelecom JSC conducted an independent assessment of the impact of its activities on biodiversity, as well as on land and water resources at telecommunication equipment locations in the cities of Astana, Almaty, and Shymkent. The assessment was performed by KazTECO LLP. The analysis covered automatic telephone exchanges (ATX), wireless communication antennas (including 5G), auxiliary equipment, and backup power sources.



The assessment included measurements of electromagnetic radiation levels, noise levels, air quality, and the potential impact of 5G antennas on wildlife (in particular, birds).

MONITORING RESULTS BY CITY

ASTANA

- › Air quality: **47 points** (for five indicators: nitrogen oxide, nitric oxide, carbon, sulfur oxide, carbon monoxide)
- › Physical impact: **17 points**
- › Electromagnetic impact: **18 points**

SHYMKENT

- › Air quality: **84 points**
- › Physical impact: **32 points**
- › Electromagnetic impact: **35 points**

ALMATY

- › Air quality: **118 points**
- › Physical impact: **28 points**
- › Electromagnetic impact: **25 points**

In all three cities, measurements were carried out in three series, taking wind direction into account, at heights of 1.5–2.0 meters above ground level, and in close proximity to telecommunication equipment.

Research findings:

- › No exceedances of established permissible limits were identified across all parameters.
- › No changes were recorded in the composition or behavior of flora and fauna.

Thus, the Company’s environmental impact was assessed as insignificant and safe for ecosystems in its areas of operation.

The monitoring report is available on the Company’s official website (telecom.kz).

Plans for 2025

1. Planning participation in biodiversity conservation and support projects in regions where the Company operates.
2. Collecting data on equipment and technological processes located in protected areas to update and publicly disclose the “Guidelines for Biodiversity Management and Conservation in Kazakhtelecom JSC’s Areas of Operation.”



ENERGY EFFICIENCY

MANAGEMENT APPROACH

GRI 3-3

Kazakhtelecom JSC applies a systematic management approach to energy consumption aimed at reducing energy costs and minimizing environmental impact. The Company is certified under the international standard ISO 50001:2018, confirming the existence of an effective energy management system.

The Company has adopted and implements an Energy Management Policy that provides for energy consumption monitoring, energy efficiency analysis, and the introduction of energy-saving solutions. A documented procedure, "Identification of Energy Types. Baseline Definition. Energy Analysis", has been implemented to maintain an energy register, control equipment parameters, and determine baseline consumption levels.

Energy optimization measures have been implemented at production sites, including installation of LED lighting, automatic lighting sensors, reduction in high-energy-consuming office equipment, and use of emergency power supplies with energy-saving settings.

Key principles of the Energy Management Policy of Kazakhtelecom JSC

- › Compliance with the legislation of the Republic of Kazakhstan, as well as national and international energy efficiency standards.
- › Commitment to achieving best available technologies in energy-efficient production.
- › Rational use of fuel and energy resources.
- › Transparency and accessibility of information on the Company's energy efficiency.

The Policy applies to the following areas: provision of telecommunication services, procurement of goods, works, and services, and operation of telecommunications networks and infrastructure.

Main Policy directions:

- › Systematic and targeted training of Company employees and raising awareness in energy conservation and efficiency.
- › Timely response to changes in legal requirements and standards and continuous improvement of internal regulatory documents.
- › Inclusion of energy efficiency as a criterion in procurement processes wherever possible.

- › Preference for energy-efficient solutions during modernization of technological and energy equipment.
- › Continuous monitoring of fuel and energy consumption and generation in core and auxiliary production processes.
- › Development of motivation mechanisms to engage employees in energy conservation initiatives.

