

Environmental protection

Management approach

In 2021, a new Environmental Code of the Republic of Kazakhstan was approved and introduced to ensure environmental safety, implement the best available technologies, take preventive measures to prevent negative environmental impact, and increase liability for violation of the requirements of environmental legislation of the Republic of Kazakhstan.

Telecommunications has relatively little impact on the environment compared to other industries. Kazakhtelecom recognizes its responsibility for the environmental impact, health, safety and quality of life of the population and takes all necessary measures to ensure environmental safety, preserve the natural environment, use natural resources rationally and minimize environmental impact in order to achieve sustainable development.

To manage the environmental aspect, the Company has created an environmental management system (EMS), which is an integral part of the system of corporate governance and an important part of the system of management of non-financial risks. The Company is certified to comply with ISO 14001 and is constantly improving the EMS.

Internal environmental regulations of Kazakhtelecom JSC:

- › Environmental policy;
 - › Action plan on the transition of Kazakhtelecom JSC to low-carbon development by 2030;
 - › Documented procedure for identifying hazards, environmental aspects and risk assessment;
 - › Documented procedure for identifying legislative and other requirements in the area of occupational safety, health and environmental protection;
 - › Documented procedure for monitoring occupational health, safety and environmental indicators;
 - › Documented procedure for management of production and consumption waste;
 - › Documented emergency readiness and response procedure.
- Kazakhtelecom JSC has determined the following priority areas of environmental development in accordance with the Strategy and Environmental Policy of the Company:
- › reduction of air emissions;
 - › use of environmentally friendly information transfer technologies;
 - › accounting of environmental risks and possible environmental impacts during the performance of operations;
 - › reduction of specific energy consumption during the provision of telecommunications services through the use of renewable energy sources in the structure of energy consumption and the implementation of energy-saving and resource-saving technologies at the Company's facilities;
 - › implementation of green, environmentally friendly, waste-free and energy-saving production technologies that have minimal environmental burden;
 - › reduction in the amount of household and production waste;
 - › creation of an environmentally friendly environment, including through landscaping and landscaping of the areas occupied by the Company;
 - › increasing the competence and awareness of the role of Company employees in resolving environmental issues.

Governance structure and tools

Environmental protection is managed at two levels. In the central administration and at the branch level, work is coordinated by a division responsible for occupational health and safety issues.

The environmental management system is part of the IMS, certified for compliance with ISO 14001:2015 Environmental Management System. Requirements and application

guidelines "and covers all areas of the Company's production activity.

The Chief Strategic Management Officer is responsible for the overall organization, coordination and effectiveness of work on the identification of risks, environmental aspects and risk assessment for the Company.

Investments in environmental protection measures

Kazakhtelecom strictly complies with the requirements of the environmental legislation of the Republic of Kazakhstan and constantly implements a number of measures aimed at reducing the negative impact on the environment. The Company's environmental protection expenses consist of several parts:

- › environmental payments for emissions of pollutants into the air, content of pollutants during wastewater discharge, disposal of production and consumption waste;

- › investments in the development of draft standards for maximum acceptable emissions of harmful substances into the atmosphere and the receipt of permits for emissions of pollutants into the atmosphere, and the development of environmental impact assessment projects.

No violations of environmental legislation were recorded in 2021. No non-financial sanctions and other administrative penalties were imposed during the reporting year for violation of environmental standards.

Environmental protection costs in 2021

45,313

thousand KZT

38,212 thousand KZT

Development of ESIA projects, draft emission standards and performance of production environmental monitoring, confirmation of categories

7,101 thousand KZT

Payments for issues

GHGs

Kazakhtelecom supports Kazakhstan's participation in global efforts to reduce greenhouse gas emissions and recognizes the importance of measures to prevent global climate change and takes measures to reduce greenhouse gas emissions in **Scope 1** and **Scope 2**.

In 2021, an Action Plan for the transition of Kazakhtelecom JSC to low-carbon development up to 2030 was developed and approved. The Plan includes measures and initiatives to achieve the strategic goal of reducing energy consumption by 1.5% per year, increasing the investment appeal and shareholder value of the Company, and reducing the Company's carbon footprint by 13% by 2030.

The Company regularly monitors greenhouse gas (GHG) emissions, quantifies the amount of direct emissions from facilities controlled by Kazakhtelecom JSC, and also indirect emissions related to the purchase of electricity.

In 2021, the Company's total direct emissions (Scope 1) were 27,702 thousand tonnes of CO₂ equivalent, and indirect emissions (Scope 2) were 221,577 thousand tonnes of CO₂ equivalent.

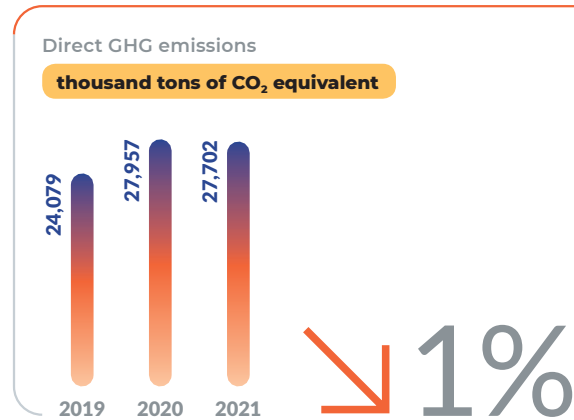
In 2021, Kazakhtelecom implemented several low-carbon development initiatives, one of which was the transition to low-carbon energy sources (gas).

Energy efficiency

Energy consumption and energy efficiency have a direct impact on environmental performance. The specifics of the activities of Kazakhtelecom JSC involve a large amount of energy consumption.

In accordance with the Strategy and Environmental Policy, the Company has determined the following priority areas of energy efficiency development:

- › reduction of specific energy consumption during the provision of telecommunications services through the use of renewable energy sources in the structure of energy consumption and the implementation of energy-saving and resource-saving technologies at the Company's facilities;



In an effort to reduce energy consumption, in the reporting year the Company transferred one diesel boiler station to central heating (Nur-Sultan), and two boiler stations from diesel fuel to gas (Kostanay region).

Kazakhtelecom continues to switch the fleet to gas as motor fuel. To date, more than 30% of Kazakhtelecom's car fleet has been converted to gas.

In addition, the Company has joined urban landscaping to contribute to the improvement of the environment and to raise public awareness of climate change issues.

- › implementation of green, environmentally friendly, waste-free and energy-saving production technologies that have minimal environmental burden.

Kazakhtelecom JSC uses direct non-renewable energy sources for its own needs, namely gasoline, diesel fuel, coal, natural gas.

Direct use of energy, GJ

Type of fuel	2019	2020	2021	2022 forecast	Change 2020-2021, %
Gasoline	151,558	165,043	136,640	130,278	-17%
Diesel fuel	86,530	86,400	83,584	82,586	-3%
Coal	19,968	25,064	23,348	20,930	-7%
Gas	115,625	144,298	141,099	141,879	-2%
Total	373,681	420,805	384,671	375,673	-9%

In 2021, direct use of fuel resources totaled **384,671 GJ**, which is 9% lower than the 2020 figure. A decrease was seen for all types of fuel.

The Company's divisions regularly hold events aimed at ensuring the rational use of heat and energy resources:

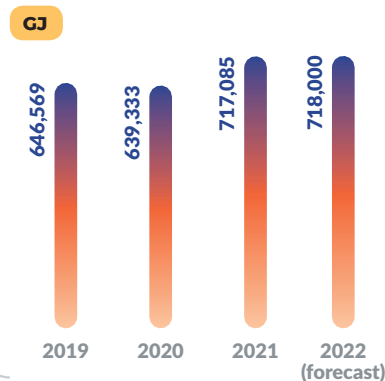
- › elimination of heat losses by heating buildings as part of measures to prepare the Company's facilities for the heating season;
- › maintenance of autonomous heating systems;
- › measures on the disposal of real estate as part of the project "Optimization of real estate management".

Electricity consumption in 2021 was 717,085 GJ. In 2021, the volume of electricity consumed increased by 11% compared to 2020 as a result of Centralized management system of telecommunication networks-2 project implementation, the change of facilities from liquid fuel heating to electric heating, and an increase in the customer load on the data center.

Air emissions

Kazakhtelecom JSC also strives to reduce the negative impact of the Company's activity on air quality by constantly implementing technological improvements, thereby reducing emissions of harmful substances. To this end, the Company uses environmentally friendly and energy-efficient production technologies to reduce air emissions.

Electricity consumption



The Company currently heats 254 properties using autonomous heating systems, including 108 diesel fuel, 108 gas heating and 38 solid fuel. In 2021, two facilities were transferred from diesel fuel to gas, and one facility was transferred from diesel fuel to central heating. This leads to a reduction in the use of diesel fuel, which in turn has a positive effect on the environment.

In 2021, the total emissions of pollutants into the air did not exceed the established standards.

Control over emissions of harmful substances into the air is an important factor in the performance of the enterprise's environmental activity.



For the operation of autonomous heating systems and diesel generator units in accordance with environmental legislation, draft maximum allowable emissions are being developed and quarterly environmental production monitoring is being performed.

Water resources

Kazakhtelecom does not have a significant impact on water intake, but seeks to reduce water use.

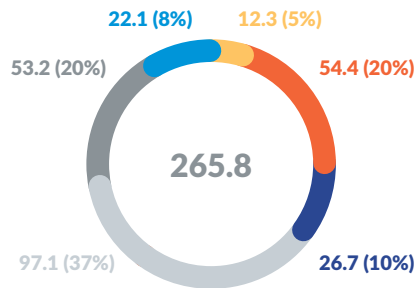
Water from the networks of water supply organizations is mainly used to supply water to the Company's divisions. Water intake is made from two source sources: underground water (wells) and surface water (rivers, lake, sea), which are protected by the Ministry of Ecology, Geology and Natural Resources.

In general, water intake of the Company's divisions in 2021 was 391,913 m³ per year. Water intake of an organization is less than 5% of the average annual volume of all water bodies, and therefore does not have a significant effect on water sources.

The Company's divisions annually carry out measures aimed at ensuring the rational use of water resources, efficient consumption of drinking water, elimination of leaks on water supply networks by replacing dilapidated sections of water pipelines, and repair of facilities on water supply networks. In addition, water intake indicators were affected by measures to dispose of real estate as part of the "Optimisation of Property Management" project.

Air emissions structure in 2021

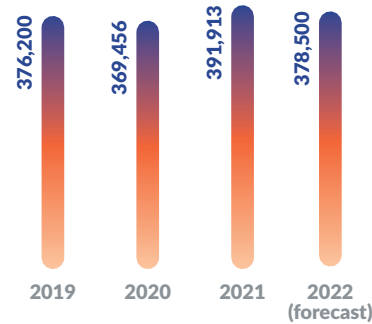
tonnes



- NO₂ emissions
- SO₂ emissions
- CO emissions
- Dust
- NO emissions
- Other emissions

Water consumption

m³



Water is not re-used by the Company's divisions in the production process of providing telecommunications services. The Company uses water only for sanitary and household needs. Installed water metering devices are in technical working order.

Waste management

Waste management is one of the main aspects of environmental planning and management at the Company.

Waste management is the activity of planning, implementing, monitoring and analyzing measures to handle production and consumption waste. In 2021, the Company approved the Production and Consumption Waste Management Program (the Program). The Program aims to improve the efficiency of procedures for assessing changes in the volume and composition of wastes, with the aim of developing an operational waste minimization policy using economic or other mechanisms to make positive changes to production and consumption patterns.

According to the program, waste for recycling is transferred to outside organizations. Wastes related to unsafe types, such as chemical sources of current or wastes containing wastes, are transferred for disposal to specialized organizations. In execution of the Environmental Code of the Republic of Kazakhstan and the Company's internal documented procedures, the Service Factory collects products and materials that have lost their consumer qualities (waste) as a result of physical or moral wear and tear, which make up the bulk of Kazakhtelecom's JSC waste.

The main goals and objectives of the Service factory are to support the Company in waste management,

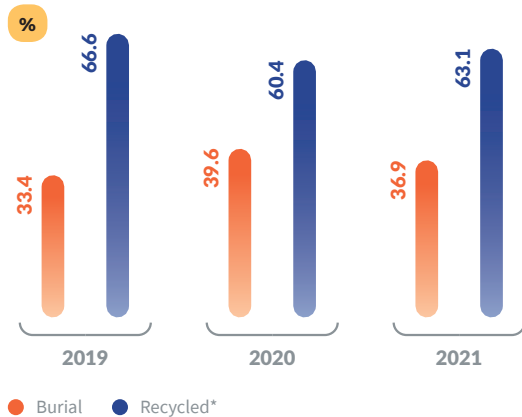
to implement new projects to improve and optimize business processes in the area of waste management, and to gradually reduce the amount of waste produced at enterprises.

In 2021, Kazakhtelecom entered into a contract with the Service Factory to collect the following types of waste of the Company:

- › electronic and electrical equipment (climate machinery, household appliances, electricity meters, backup power sources (DGU, DGA, mini-power plants), uninterrupted power sources, EPM equipment, transformer substations, power tool, etc.);
- › chemical sources of current (batteries of various types);
- › H (hydrargyrum) containing waste (LP);
- › waste oil (waste oil from gas processing plants, vehicles, transformer substations, etc.);
- › waste paper (paper);
- › packaging (all types of packaging material).

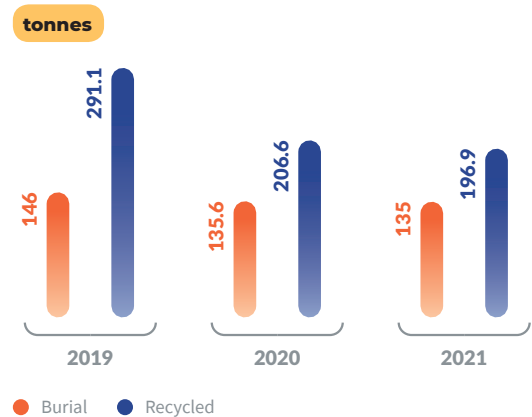
Municipal waste shall be removed by a specialized organization licensed to remove and dispose of waste. Telecommunications and office equipment shall be written off and transferred for recycling and processing on the basis of the Standard of the Organization "Rules for Dismantling and Recycling of Written Off Telecommunications Equipment".

Ratio of waste disposed of and recycled by Kazakhtelecom JSC



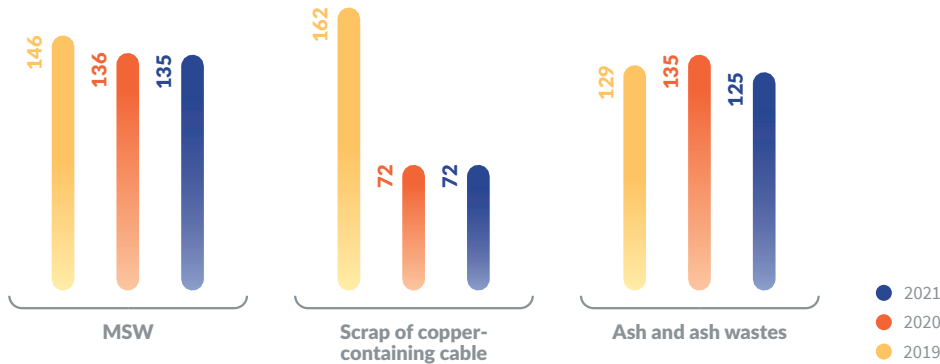
* This percentage does not include waste that was expressed in unit measurement and recycled.

Dynamics of waste disposed of and recycled by Kazakhtelecom JSC



Changes in the accounting of Kazakhtelecom JSC wastes

tonnes



In 2021, 108,024 items of telecommunications equipment (PCM, CM, client, digital equipment (STB, CDMA terminals, modems, routers, multimeters, modules, control boards, terminals and other equipment) and office equipment) were transferred for utilization.

Written off equipment, cables and office equipment are transferred to a specialized organization licensed to collect, store and dispose of non-ferrous metals and ferrous metals. If acceptable, the operating service makes a decision on the further use of part of the equipment as spare parts.

Biodiversity impacts

The Company understands the importance of conservation of biodiversity in the region of its presence and makes efforts to study the state of flora and faunas on the territory of its infrastructure facilities. The Company's activities do not create a threat to the existence of protected flora and faunas.

One of the tasks facing Kazakhtelecom under the Environmental Policy is to determine the level of impact of the Company's infrastructure facilities on its habitats, plants and protected animal species and to prepare preventive biodiversity protection measures.

In 2021, no construction and other types of work were performed in the habitats of protected flora and faunas and in protected natural areas.

Kazakhtelecom JSC takes the following measures to prevent and mitigate the negative impact of construction in the right of way on the surface environment:

- › the use of existing utilities routes and transport corridors, which makes it possible to place new infrastructure facilities of Kazakhtelecom JSC without affecting key natural areas;
- › site restoration on disturbed land plots using local plant species.

The following control and preventive measures are taken to minimize the impact of birds on infrastructure facilities:

- › location of infrastructure outside key biotops;
- › prevention of cumulative impact of the sensors located on existing towers or other stationary facilities, stipulating the structural and electrical capabilities of connecting future additional users when designing new towers;
- › dismantling of unused towers.

Managing potential biodiversity impacts



It is important to note that Kazakhtelecom JSC complies with the requirements of the laws of the Republic of Kazakhstan as regards the Environmental Code and provides for the proper assessment of the territory in terms of potential environmental damage, and performs remedial measures. Kazakhtelecom's projects include measures to eliminate environmental damage, such as site restoration and environmental impact assessment. The site restoration plans include, among other things, information on the wildlife and floriculture of the site.

Plans for 2022 and the medium term

1. Prevention of an increase in energy efficiency indicators;
2. Reduction of fossil fuel consumption in transportation;
3. Implementation of the Green Office program;
4. Starting from 2022, accounting for and sale of wastes in the weight category;
5. Since 2023 carrying out monitoring on a biodiversity (the observation analysis of a biodiversity with the description of influence once a year).