ENVIRONMENTAL PROTECTION

GRI 2-12, 2-13

KEY INDICATORS FOR 2024

2,370,678
tonnes of CO_2-eq

total greenhouse gas emissions
(Scope 1 and Scope 2)

9,045.42
tonnes of CO_2-eq

reduction in greenhouse gas emissions due
to energy-saving and energy efficiency measures

KEGOC JSC considers environmental protection activities as an integral part of its daily work. Responsible attitude to the environment is a key principle of KEGOC JSC Environmental Policy.

KEY DOCUMENTS IN THE AREA OF ENVIRONMENTAL PROTECTION

- Development Plan (Strategy) of KEGOC JSC for 2023–2032
- Sustainable Development Management System Manual
- Environmental Policy
- Objectives in the areas of quality, environment, occupational health and safety
- Register of Environmental Aspects
- Environmental Management System Planning Standard
- Waste Management Standard

CONTRIBUTION TO THE UN SDGS

ENVIRONMENTAL PROTECTION POLICY

KEGOC JSC considers environmental protection activities as an integral part of its daily work. Responsible attitude to the environment is a key principle of KEGOC JSC Environmental Policy.

The environmental policy of KEGOC JSC is aimed at minimizing the negative impact on the environment, reducing the carbon footprint, increasing the level of environmental safety, responsibility for ensuring environmental protection during the development of the NPG of the Republic of Kazakhstan, energy conservation and rational use of natural and energy resources in the Company's activities. The Environmental Policy applies to all employees of KEGOC JSC, as well as to suppliers, employees of contractors and organizations providing services at the Company's facilities, on the terms specified in the concluded contracts. The management of KEGOC JSC assumes responsibility for the implementation of the obligations assumed in accordance with the Environmental Policy for continuous improvement and prevention of pollution, as well as compliance with applicable legislative and other requirements to which KEGOC JSC is related in terms of its environmental aspects. Each employee of the Company, as well as employees of contractors working in the interests of the Company, are familiar with the Environmental Policy of KEGOC JSC.

GRI 2-23, GRI 2-24

The Company has implemented and successfully operates an Environmental Management System (EMS) based on the international standard ISO 14001. The scope of application of the EMS covers the performance of the system operator's functions in the power industry: provision of system services to wholesale market entities for the transmission of electricity through the National power grid, technical dispatch control, and balancing of electricity generation and consumption.

To confirm compliance with international environmental management standards, in 2023, the Company underwent a certification audit by the independent certification body MS CERTIFICATION SERVICES PRIVATE LIMITED (India). In 2024, a surveillance audit was conducted, which confirmed that the EMS remains compliant with ISO 14001 requirements.

To ensure effective EMS, KEGOC JSC developed its 2024 Register of Environmental Aspects. The identification process includes the analysis of all components of the Company's environmental impact (energy efficiency, biodiversity, water, soil, emissions, and waste). Management actions for these aspects are defined in the Company's Environmental Program for 2024.

The following have been identified as priority environmental aspects for 2024:

- Potential PCB-containing waste, due to polychlorinated biphenyls (PCBs) being classified as hazardous substances under the Environmental Code of the Republic of Kazakhstan;
- Transformer oil and used transformer oil, due to the presence of oil-filled equipment at the Company's facilities.

Annually, all MES branches conclude contracts for both mandatory and voluntary environmental insurance.

MS CERT

Certificate Of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM

This is to certify that the Environmental Management System of

Eng: JSC «KEGOC» (Kazakhstan Electricity Grid Operating Company) with branches (see attachment)

Kaz: «Электр желілерін басқару жөніндегі Қазақстан компаниясы» (Kazakhstan Electricity Grid Operating Company) «KEGOC» АҚ филиалдарды қосқанда (қосымшаны қараңыз)

Rus: АО«Казахстанская компания по управлению электрическими сетями»(Kazakhstan Electricity Grid Operating Company) «KEGOC»с филиалами (см. приложение)

Address:

Eng: 59, Tauelsizdik ave., Almaty District, Astana city, Republic of Kazakhstan, Z00T2D0

Kaz: Z00T2D0 Қазақстан Республикасы, Астана қаласы, Алматы ауданы, Тәуелсіздік Даңғылы, 59

Rus: Z00T2D0, Республика Казахстан, город Астана, район Алматы, проспект Тәуелсіздік, 59

has been assessed and found to comply with the requirements of:

ISO 14001:2015

(Environmental Management System)

Scope of Certification:

Eng: Performing system operator's functions in electrical power industry: rendering system services for wholesale electricity market participants on electricity transmission via national power grid, technical dispatching and management of electricity generation-consumption balancing

Kaz : Электр энергетикасы саласында жүйелік оператордың функцияларын орындау: электр энергиясының көтерме нарығының субъектілеріне ұлттық электр торабы бойынша электр энергиясын жеткізу, техникалық диспетчерлеу және электр энергиясын өндіру-тұтынуды теңгерімдеуді ұйымдастыру бойынша жүйелік қызмет көрсету

Rus: Выполнение функций системного оператора в области электроэнергетики: оказание системных услуг субъектам оптового рынка электроэнергии по передаче электрической энергии по Национальной электрической сети, технической диспетчеризации и организации балансирования производства - потребления электроэнергии

Certificate Number: KAZ/EMS/00067/10432

Sector Code : 25 | Issue no.: 01
Date of approval : 29.12.2023 | Valid until : 28.12.2026
Revision no: nil | Revision date : nil

November 2024 — Surveillance Audit 1st Year

Original Certification Date: 29.12.2023

Head of Certification

November 2025 — Surveillance Audit 2nd Year

IAF · IAS ACCREDITED MSCB-240 · MS CERT

MSCS Critical Location: MS CERTIFICATION SERVICES PVT. LTD. 3/23 R.K.CHATTERJEE ROAD KOLKATA-700042, INDIA. Local Office (Other Location): ALMATY CERTIFICATION BERUAU" LLP. 2, 29-V, Dzhandosova Street, Almaty City, Republic of Kazakhstan
www.mscertification.net
The validity of this certificate can be verified at https://www.iafcertsearch.org and www.mscertification.net The Certificate is Valid Only if the Annual Surveillance Mark is Signed by Auditor on Original.

F60.rev.05

As part of the "Strengthening the Power Grid of the Southern Zone of the Unified Power System of Kazakhstan" project, the required environmental permits for construction-phase impacts were obtained in accordance with the project design documentation.

To ensure compliance with environmental legislation and improve staff qualifications, in May 2024, corporate training was organized for MES branch employees responsible for environmental protection. The training was dedicated to amendments and updates to the Environmental Code of the Republic of Kazakhstan.

GRI 2-27

Throughout in 2024, KEGOC JSC was not subject to any financial or non-financial sanctions, nor were there any significant fines related to violations of environmental legislation or regulatory requirements.

GRI 2-25

In addition, no complaints were received from stakeholders regarding negative environmental impacts during the reporting period.

INTERNATIONAL IEMA CERTIFICATION IN ENVIRONMENTAL MANAGEMENT

In September 2024, the Chief Environmental Manager completed a two-week training course under the IEMA (Institute of Environmental Management and Assessment) program. Upon successful completion of the modular examinations, an International Certificate in Environmental Management was obtained, confirming a high level of professional expertise in the field of sustainable natural resource management.

EFFECT ON ATMOSPHERIC AIR

GRI 3-3

KEGOC JSC actively works to minimize the impact of its operations on atmosphere air.

THE COMPANY USES EQUIPMENT AND TECHNOLOGIES THAT, IN MOST CASES, ARE NOT ASSOCIATED WITH DIRECT ATMOSPHERIC EMISSIONS, SUCH AS KEGOC JSC'S CORE ACTIVITY INVOLVES THE TRANSMISSION OF ELECTRIC POWER VIA HIGH-VOLTAGE TRANSMISSION LINES.

In accordance with the decision of the authorized environmental protection body, all branches of the MES are classified as Category IV facilities, for which emission standards are not subject to establishment.

Emissions of air pollutants are calculated using estimation methods, based on the number of operating hours of each unit of equipment and material consumption, in accordance with the official methodologies for calculating air pollutant emissions of the Republic of Kazakhstan.

GRI 305-7

Air pollutant emissions, tonnes

Air pollutant emissions	2023	2024
Nitrogen oxides (NOx)	0.406	0.376
Sulfur dioxide (SOx)	0.059	0.051
Particulate matter (PM)	0.252	0.277
Carbon monoxide (CO)	0.290	0.243
Volatile organic compounds (VOCs)	0.179	0.146

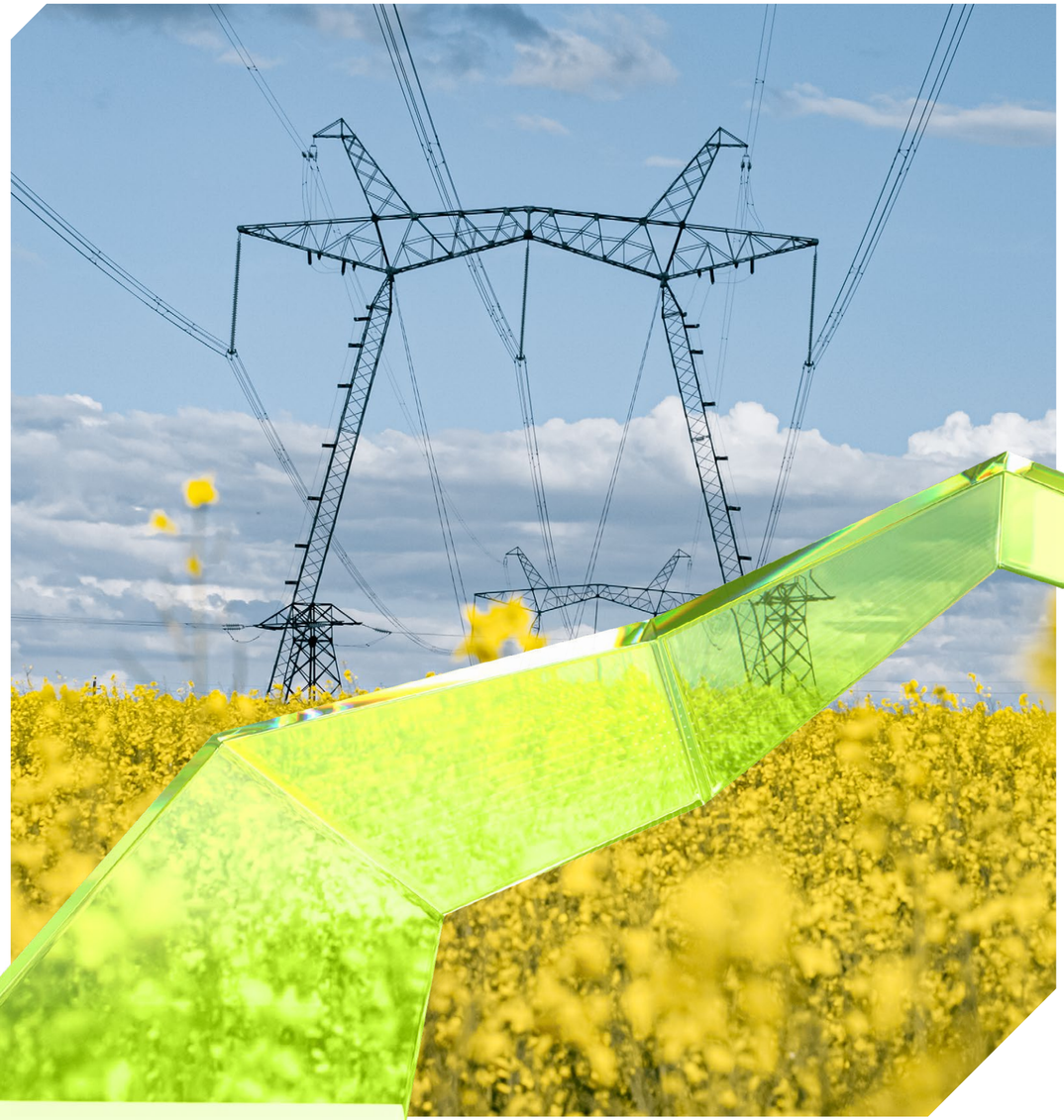
Note: According to the Tax Code of the Republic of Kazakhstan, emissions from mobile sources are not subject to calculation; instead, the amount of fuel consumed is reported.

Due to a systematic approach to managing the technical condition of vehicles, KEGOC JSC achieved a reduction in atmospheric emissions in 2024.

To ensure uninterrupted operation of its infrastructure, KEGOC JSC utilizes motor vehicles and mobile units. In 2024, the Company conducted regular technical maintenance of its fleet to minimize air emissions. Vehicle inspections were also carried out to check the toxicity and opacity of exhaust gases released into the atmosphere.

GRI 305-6

In its operations, the Company does not emit ozone-depleting substances that contribute to climate change.



IMPACT ON WATER BODIES

GRI 3-3, 303-1, 303-2

KEGOC JSC does not use water in its technological processes, and the Company's total water consumption remains insignificant, having no material impact on water sources.

Water is consumed exclusively for domestic and sanitary needs and is sourced from municipal water supply systems and wells. No water is withdrawn from surface sources such as rivers, lakes, or other bodies of water.

Seven MES branches operate artesian water supply systems, with wells used in accordance with the permits for special water use. In line with the Water Code of the Republic of Kazakhstan, underground water monitoring is carried out on an ongoing basis at the well water intakes under contracts with specialized organizations.

Potential sources of water and soil pollution at the Company's facilities include:

- transformer oil used in oil-filled equipment;
- wastewater generated from domestic water use.

To minimize environmental impact, KEGOC JSC prioritizes environmentally friendly equipment when making procurement decisions. The Company regularly replaces oil circuit breakers with safer SF_6 and vacuum alternatives, contributing to the reduction of transformer oil use at MES branch substations.

The use of oil-free equipment increases reliability and fire safety while also eliminating the risk of underground water and soil contamination. Oil-filled equipment is equipped with oil catchment systems or containment trays to prevent oil from entering the soil. The integrity of oil containment bunds is regularly inspected.

GRI 303-3, SASB IF-EU-140A.1

IN 2024, THE VOLUME OF WATER EXTRACTED FROM WELLS AMOUNTED TO 37.97381 MEGALITERS. THE COMPANY DOES NOT USE RECIRCULATED WATER. NO WATER IS WITHDRAWN FROM SURFACE, MARINE, OR FORMATION WATER SOURCES.

Wastewater is not discharged onto the land surface.

KEGOC JSC water withdrawal indicators, megaliters

By source type	2022	2023	2024
Groundwater (wells)	**52.39**	**41.11**	**37.97**
Freshwater (mineralization up to 1,000 mg/L)	-	22.76	27.88
Technical water (over 1,000 mg/L)	-	19.36	10.10
of them, in regions with water scarcity*	8.10	9.84	7.07
Third-party water (municipal supply and delivered)	**87.31**	**65.86**	**69.23**
Freshwater (mineralization up to 1,000 mg/L)	-	53.06	58.62
Technical water (over 1,000 mg/L)	-	12.80	10.60
of them, in regions with water stress*	9.68	9.83	9.02
Total	**139.70**	**106.98**	**107.20**
of them, in regions with water stress*	**17.78**	**19.67**	**16.09**

KEGOC JSC water discharge indicators, megaliters

GRI 303-4

By type	2022	2023	2024
Third-party organizations (wastewater disposal)	-	49.54	46.46
Freshwater (mineralization up to 1,000 mg/L)	**-**	**41.12**	**38.47**
of them, in regions with water stress*		3.80	3.96
Technical water (over 1,000 mg/L)	**-**	**8.43**	**7.99**
of them, in regions with water stress*	-	0.95	1.08

* the areas with water stress include the territories of the branches of KEGOC JSC of the Southern and Western MES, according to the Water Stress Map.

KEGOC JSC water consumption indicators, megaliters

GRI 303-5

Year	2022	2023	2024
Water withdrawal	**139.70**	**106.98**	**107.20**
of them, in regions with water stress*	17.78	19.67	16.09
Water discharge	**-**	**49.54**	**46.46**
of them, in regions with water stress*	-	4.75	5.04
Total water consumption	**-**	**57.43**	**60.74**
of them, in regions with water stress*	**-**	**14.93**	**11.05**

* Water consumption is calculated as the difference between water withdrawal and water discharge.

WASTE MANAGEMENT

GRI 3-3, 306-1, 306-2

Production waste at KEGOC JSC is generated during the operation, maintenance, repair, and modernization of equipment.

Waste management is carried out in accordance with the requirements of the Environmental Code of the Republic of Kazakhstan and the internal organizational Standard "Waste Management at KEGOC JSC." Under these documents, all waste is classified as either hazardous or non-hazardous.

The transfer of hazardous waste to third-party organizations is carried out on the basis of a license authorizing the processing, neutralization, utilization, and/or disposal of hazardous waste. The list of waste types and their hazard classifications is regularly updated in the event of changes in composition, volume, or handling conditions.

As needed, MES branches develop or revise waste passports for each waste type. These passports include descriptions of the waste generation processes at the source, quantitative and qualitative characteristics, handling rules, monitoring methods, environmental impact, and information about the waste producers.

To ensure safe and separate storage of waste, dedicated waste storage sites have been designated at MES branches. Waste placement maps with explanatory notes have been developed for each facility, and the timely removal of waste for further utilization is ensured.

In 2024, work continued to identify PCBs in KEGOC JSC's substation equipment, in accordance with the Law of the Republic of Kazakhstan "On the Ratification of the Stockholm Convention on Persistent Organic Pollutants" and the Rules for the Handling of Persistent Organic Pollutants and Waste Containing Them (approved by the Order of the Minister of Environmental Protection of the Republic of Kazakhstan). MES branches updated PCB-containing equipment registers and submitted them to the territorial environmental protection authorities within the established deadlines.

In 2024, laboratory analyses of transformer oil for PCB content were conducted at the Akmola MES and Northern MES branches. No PCBs were detected based on the test results.

Volume of hazardous and non-hazardous waste at KEGOC JSC, tonnes

GRI 306-3

Type	2023	2024
Hazardous waste	462.00	63.61
Non-hazardous waste	2,883.76	3,523.22
Total	**3,345.765**	**3,586.831**

Total waste volume at KEGOC JSC, tonnes

Year	2020	2021	2022	2023	2024
Waste	5,117.11	4,326.09	2,635.99	3,345.77	3,586.831

Waste diverted from disposal and directed to disposal, tonnes*

GRI 306-4, 306-5

Type	Hazardous	Non-hazardous
Recovery, including:	**9.34**	**203.00**
preparation for reuse	8.64	202.95
recycling	0.70	0.05
other recovery operations	0	0
Disposal, including:	**3.21**	**1,276.19**
incineration	2.93	1.37
landfilling	0	1,274.82
other disposal operations	0.28	0
Waste transferred to third-party specialized organizations with unknown final treatment method**	**51.06**	**2,044.03**
Total waste transferred to third-party specialized organizations	**63.61**	**3,523.22**

* In the reporting period, all waste was recovered or disposed of off-site.

** In accordance with contracts, the waste was transferred to third-party specialized organizations in compliance with the applicable legislation of the Republic of Kazakhstan, which does not obligate KEGOC JSC to track the final treatment of waste handled by external service providers.

The total volume of waste transferred by the Company to third-party specialized organizations for recovery, disposal, and destruction under contractual agreements in 2024 amounted to 3,586.83 tonnes. Of this:

- the total volume of recovered waste (recycling, preparation for reuse, etc.) amounted to 1,207.66 tonnes;
- the total volume of disposed waste (incineration, landfilling, etc.) amounted to 2,379.17 tonnes;
- the total volume of waste transferred to third-party organizations with an unknown final treatment method was 2,095.09 tonnes.

Waste transfer was carried out in accordance with the applicable legislation of the Republic of Kazakhstan, which does not place an obligation on KEGOC JSC to track the final treatment of waste handled by service providers. However, in line with its commitment to enhanced environmental responsibility and sustainable development, and in adherence to ESG principles, the Company is working to ensure transparency and control at all stages of the waste management process. To this end, KEGOC JSC has initiated the practice of requesting waste processing reports from its service providers, including information on treatment methods and final disposal.

ENERGY EFFICIENCY

GRI 3-3

KEGOC JSC implements a set of measures aimed at improving energy efficiency and the rational use of resources. The key priorities in this area include reducing the consumption of fuel and energy resources, lowering energy costs for the internal needs of facilities, minimizing technological losses during electricity transmission through the NPG, and developing an energy metering and control system based on metering devices and data analysis.

11,369.62
thousand GJ

total consumption of fuel and energy resources in 2024

Consumption of fuel and energy resources in 2024

GRI 302-1

	Unit	Consumption (physical units)	Consumption (thousand GJ)[1]
Total electricity	**thousand kWh**	**3,095,260.48**	**11,142, 93772**
of which from renewable energy sources	thousand kWh	462,748.75	1.66590
Heat energy	**Gcal**	**21,352.531**	**89.39878**
Fuel, including:		**-**	**137.28392**
motor gasoline	tonnes	1,007.21	44.01529
diesel fuel	tonnes	2,112.58	89.78469
natural gas	thousand m^3	95.07	3.21333
liquefied natural gas	tonnes	5.88	0.27061
Total			**11,369.62043**

[1] The conversion of fuel and energy resource consumption volumes into joules was performed using the Methodology for Calculating Greenhouse Gas Emissions and Removals, approved by Order No. 9 of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated 17 January 2023, and the Methodology for Compiling the Fuel and Energy Balance and Calculating Certain Statistical Indicators Characterizing the Energy Sector, approved by Order No. 160 of the Chairman of the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan dated 11 August 2016.

In 2024, the total consumption of fuel and energy resources increased by 551,803.99 GJ compared to 2023, mainly due to the growth in electricity consumption as a result of increased volumes of electricity transmission through the NPG.

KEGOC JSC energy intenstiy

GRI 302-3

Unit	2020	2021	2022	2023	2024
thousand GJ per thousand KZT revenue	0.058	0.060	0.048	0.043	0.036

KEGOC JSC Electricity consumption

GRI 302-1

Year	2020	2021	2022	2023	2024
Unit	mln kWh				thousand GJ
Energy consumption	3,059.92	2,824.90	2,950.28	3,095.26	11,142.93772
Including RES	32.41	14.23	205.7*	462.74875*	1.66590

* In connection with amendments to the Law of the Republic of Kazakhstan "On Electric Power Industry" introduced in 2023, since 1 July 2023, the Single Electricity Purchaser has been purchasing electricity from all power generation companies connected to the NPG, including RES. Therefore, the indicator for 2023 and 2024 was calculated based on the share of electricity generated from RES (as per GRI 302 terminology) in the total volume of electricity production.

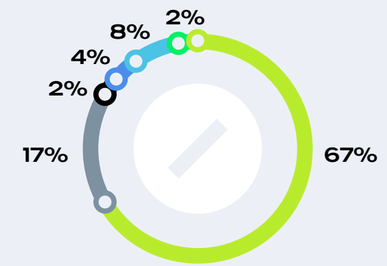
EU12

The greatest effect, in terms of reducing energy consumption, is provided by measures to reduce the technological consumption of electric energy for transmission over electric networks.

The UPS of the Republic of Kazakhstan is mainly characterized by the concentration of powerful energy sources in the Northern zone and the presence of long (about 1,000 km) transit power lines (the main directions of transit North — South of the Republic of Kazakhstan, Pavlodar region — Aktobe region) — this is due to the large territory of the country and has a significant impact on the level of technological electricity consumption (technical losses).

Technical losses in the KEGOC JSC network also depend on the operating modes of the energy systems of neighboring countries (transit, export and import of electricity) and climatic conditions.

Structure of KEGOC JSC's electricity losses for 2024



In 2024, the technological electricity consumption in KEGOC JSC networks amounted to 3.069 billion kWh, which is equivalent to 5% of the total electricity transmitted to the grid.

Technological electricity consumption refers to natural electricity losses that occur due to physical processes in conductors and electrical equipment during transmission across the grid. The Company's primary objective in this area is to reduce actual loss levels to an optimal value through the planning and implementation of technical and organizational measures.

Changes in climatic conditions may become a risk factor contributing to excessive electricity losses during transmission. In this regard, KEGOC JSC takes into account climate factor analysis and the dynamics of actual electricity losses when developing and implementing loss reduction measures and climate risk mitigation efforts.

As a result of measures taken to optimize the operating modes of the UPS of the Republic of Kazakhstan, electricity consumption was reduced by 5.042 million kWh in 2024, exceeding the 2023 indicator (4.058 million kWh).

The effect of measures to reduce electricity losses

GRI 201-2, 302-4, 302-5

Activity	2022		2023		2024	
	mln. kWh	GJ	mln. kWh	GJ	mln. kWh	GJ
Disconnecting lines in low-load mode	0.260	936	0.180	648	0.178	641
Switching off power transformers in low-load mode	3.672	13,219	3.878	13,961	4.864	17,510
Total of KEGOC JSC	**3.932**	**14,155**	**4.058**	**14,609**	**5.042**	**18,151**

In accordance with the requirements of the Law of the Republic of Kazakhstan "On Energy saving and energy efficiency improvement," KEGOC JSC initiated an energy audit involving an external specialized organization. Based on the audit results, an Energy Saving and Energy Efficiency Improvement Action Plan for 2021–2025 was approved, providing for the potential reduction of energy resource consumption by 4,977.522 tonnes of oil equivalent (t.o.e.).

As part of the implementation of the Action Plan, the following energy efficiency measures were carried out:

- modernization of lighting systems at substations and inside buildings;
- installation of energy-efficient electric boilers;
- cleaning of heating system pipelines and water treatment systems;
- replacement of outdated exterior doors, gates, and window units;
- installation of radiator thermostats and temperature controllers at facilities with electric heating.

As a result of the measures implemented under the Plan, energy savings in 2024 amounted to 43,541,85 GJ, which corresponds to greenhouse gas emissions of 9,045.42 tonnes of CO_2 equivalent.

Effect of energy saving and energy efficiency measures

GRI 305-5

	2022	2023	2024
Reduction in energy consumption, GJ	11,621.27	35,470.78	43,541.85

61,693.05
GJ

energy savings in 2024

IN 2024, THE IMPLEMENTATION OF THE ENERGY SAVING AND ENERGY EFFICIENCY IMPROVEMENT ACTION PLAN FOR 2021–2025 EXCEEDED THE PLANNED TARGETS, RESULTING IN A MORE SUBSTANTIAL REDUCTION IN ENERGY CONSUMPTION.

IMPACT ON BIODIVERSITY

GRI 3-3, 2-26, 304-1, 304-2

As a transmission company and system operator, KEGOC JSC does not have a significant direct impact on flora and fauna. Nevertheless, the Company places great importance on minimizing potential impacts on ecosystems and biodiversity. To this end, the Biodiversity Policy was developed and implemented. It applies to all KEGOC JSC employees, as well as to suppliers, contractors, and service providers operating at the Company's facilities in accordance with the terms of relevant contracts.

The main objective of KEGOC JSC Biodiversity Policy is to prevent and minimize adverse impacts of the Company's operations on ecosystems and biodiversity within KEGOC JSC areas of influence.

The Company assesses environmental and biodiversity-related risks at all stages of project implementation, including planning, construction, and post-project monitoring. Where significant impacts are identified, biodiversity management plans are developed.

KEGOC JSC adheres to the principles of sustainable development and avoids placing facilities within protected areas. Modern technical solutions are used during the design of new facilities to minimize environmental impact.

In addition, the Company informs stakeholders about potential impacts of major projects, engages with NGOs on environmental protection initiatives, and conducts training and awareness-raising activities to enhance environmental knowledge among employees and partners.

When implementing investment projects, KEGOC JSC applies a comprehensive approach to nature conservation and biodiversity protection, including:

- Environmental risk assessments at all stages of the project life cycle;
- Avoidance of OHTL routes and SS locations in residential areas, zones of prospective development, specially protected natural territories, cultural heritage sites, forests, water protection zones, and other sensitive areas.

Typically, OHTL routes are designed to pass through steppe and semi-desert zones, which helps reduce impacts on biodiversity and minimize socio-environmental conflicts.

KEGOC JSC carries out its activities in accordance with the principles of environmental legislation of the Republic of Kazakhstan, in particular the principle of accessibility of environmental information and the principle of public participation. When passing the stage of consideration of any construction and reconstruction projects, a mandatory stage is to hold public hearings or discussions on EIA projects.

During the EIA, all processes of possible significant environmental impacts in the implementation of the planned activities are taken into account, including:

- effect on atmospheric air,
- reservoirs and groundwater,
- terrain,
- conservation of biodiversity, wildlife.

Identification and assessment of project risks are carried out on an ongoing basis and at all stages of project implementation. To analyze the risks of project implementation, PESTEL analysis is used, including analysis of social and environmental risks. The results of the conducted EIA, including on biodiversity, are taken into account and the option that causes the least harm to the environment is adopted.

IMPACT AND MEASURES FOR THE PROTECTION OF ORNITOFAUNA

KEGOC JSC contributes to the preservation of ecosystems and traditional habitats within transmission line rights-of-way and around substations.

According to international research, low-voltage power lines (0.4–10 kV) pose a high risk of electrocution to birds due to short distances between grounded and energized components, which can lead to short circuits upon simultaneous contact.

In contrast, 99.2% of KEGOC JSC transmission lines are high-voltage lines (110 kV and above), where the minimum distance between grounded and energized parts is at least 1.5 meters. This exceeds the average wingspan of most bird species and thus virtually eliminates the risk of electrocution.

To mitigate the risk that transmission lines pose to birds, the Company implements a range of measures based on international research and its own operational experience:

- installation of bird protection devices: over 11,000 bird-safe devices have been installed at potential perching sites on crossarms and outdoor switchgear portals across KEGOC JSC facilities. These devices prevent birds from landing on elements of transmission lines and substations. Additional devices include innovative solutions proposed by employees, such as rotating attachments mounted at the edge of concrete pole crossarms to deter birds from perching.
- use of visual and acoustic deterrents: noise and visual deterrents that are activated by wind are used to reduce risks for birds. These also help scare birds away during periods of high activity, such as seasonal migrations.
- Educational programs and collaboration with ornithologists: the Company continuously monitors biodiversity preservation technologies, reviews the experiences of peer companies, and maintains communication with conservation organizations. For example, in December 2024, KEGOC JSC participated in the conference "Birds and Energy: Challenges and Solutions" organized by the Public Fund Center for Biodiversity Research and Conservation (BRCC Research & Conservation).

These additional measures enhance bird safety by reducing exposure to potential threats and contribute to a more harmonious coexistence between infrastructure and biodiversity.