

# Environment and energy efficiency

Minimising environmental impact and preserving natural resources for future generations is one of FESCO's key operational priorities.

## Key 2024 results

### 22.8%

reduction in the share of waste sent to landfills

### 4.5%

reduction in energy intensity of non-container cargo handling

### RUB 314.2 million

total environmental protection expenditure

### 1.6%

decrease in energy intensity of cargo transportation by sea

### 4.4%

decrease in energy intensity of cargo transportation by road

### 1.74%

reduction in greenhouse gas emissions driven by energy saving and energy efficiency measures

**An automated corporate system for accounting fuel and energy resources was developed.**

**FESCO's environmental protection efforts contribute to achieving the following goals.**

#### Russia's National Development Goals

- Comfortable and safe living environment
- Environmental well-being

#### UN SDGs



**Goal 9.**  
industry, innovation  
and infrastructure



**Goal 13.**  
climate action



**Goal 12.**  
responsible  
consumption and  
production



**Goal 14.**  
life below water

#### Strategic environmental priorities and planned initiatives

- Reducing carbon footprint, in particular through the heating systems transition to alternative energy sources and the implementation of an energy efficiency programme
- Improving wastewater treatment efficiency
- Implementing a closed-loop water supply system, including wastewater treatment, collection in storage tanks, and secondary use in fog cannons for dust suppression during coal handling
- Separate waste collection, sorting, and transfer to licensed organisations for further recycling and disposal.

## Environmental management

Responsible environmental stewardship and continuous commitment to reducing carbon footprint and improving fleet energy efficiency are key sustainability goals for FESCO.

In conducting its operations, the Company follows the strategic objectives of the International Maritime Organisation (IMO) regarding the reduction of greenhouse gas emissions, as well as other regulatory standards at international, regional, and national levels.

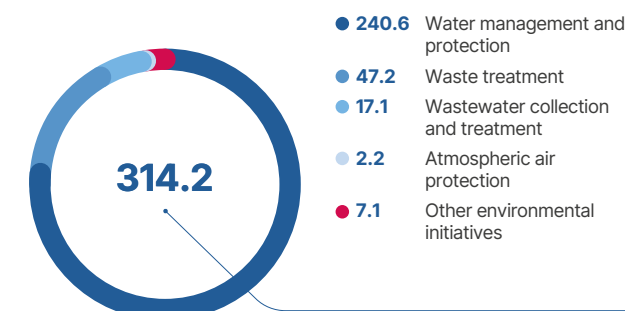
FESCO's core environmental principles are outlined in its Environmental Policy, a key internal regulation defining goals and key focus areas for ensuring environmental protection and safety. It applies to all branches and standalone units within FESCO Group, as well as its subsidiaries and affiliates.

In 2024, FESCO joined the Uniform Industry-Wide Environmental Policy of Rosatom State Corporation and its Organisations. This step ensures the Company's compliance with Rosatom's regulations on public consultations in making environmentally significant decisions, which are to be followed as part of the Interaction with Regional Authorities, Local Communities, and Public Organisations group of processes with a view to ensuring environmentally sustainable development of Rosatom and its organisations.

To enhance environmental performance and prevent negative impacts from operations, FESCO Group companies have implemented an Environmental Management System (EMS) certified to GOST R ISO 14001:2016 (ISO 14001:2015) Environmental Management System. The certification remains valid until 24 December 2027. The system integrates documented procedures, plans, standard operating procedures, internal and external audits, regulatory inspections, self-assessments, and management reviews.

In 2024, FESCO's branch was certified for compliance with the international standard ISO 9001:2015 Quality Management Systems. The management system covers maritime and coastal cargo transportation and crew recruitment operations.

### Environmental safety expenses, RUB million



Source: Company data



## Waste management

Responsible waste handling is one of the priorities of FESCO Group's environmental policy. To promote circular economy principles, the Company implements measures and initiatives aimed at reducing total waste generation and increasing the proportion of waste sent for recycling and neutralisation.

The Company's key waste management regulations are the Environmental Policy and the Production and Consumption Waste Management Standard.

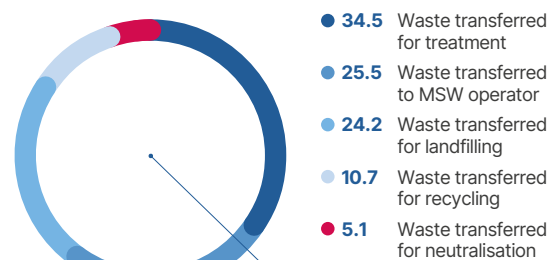
All temporary waste storage facilities fully comply with current environmental, sanitary, and epidemiological laws.

In 2024, FESCO Group generated 2,487.8 tonnes of industrial waste, down 236.2 tonnes compared to the previous year. The share of waste sent to landfills went down by 22.8%.

Waste movement	Hazard class, tonnes					Total, tonnes
	I class	II class	III class	IV class	V class	
<b>Generated</b>	<b>0.3</b>	<b>0.2</b>	<b>250.8</b>	<b>1,015.4</b>	<b>1,221.1</b>	<b>2,487.8</b>
<b>Transferred</b>	<b>0.3</b>	<b>0.2</b>	<b>250.8</b>	<b>1,015.4</b>	<b>1,221.1</b>	<b>2,487.8</b>
<b>Including:</b>						
To regional MSW <sup>1</sup> operator	0	0	0	464.5	170.5	635.0
• For treatment	0	0	0	0.0	857.8	857.8
• For recycling	0.3	0.1	141.5	117.8	7.3	267.0
• For neutralisation	0	0.1	109.3	13.3	4.2	126.9
• For landfilling	0	0	0	419.8	181.3	601.1

Source: Company data

### Waste management in 2024, %



Source: Company data

# 22.8%

reduction in the share of waste sent to landfills

# 10%

reduction in total waste generated across Group facilities

<sup>1</sup> Municipal solid waste.

## Water consumption and protection of water resources

In managing water resources, FESCO adheres to the following regulations:

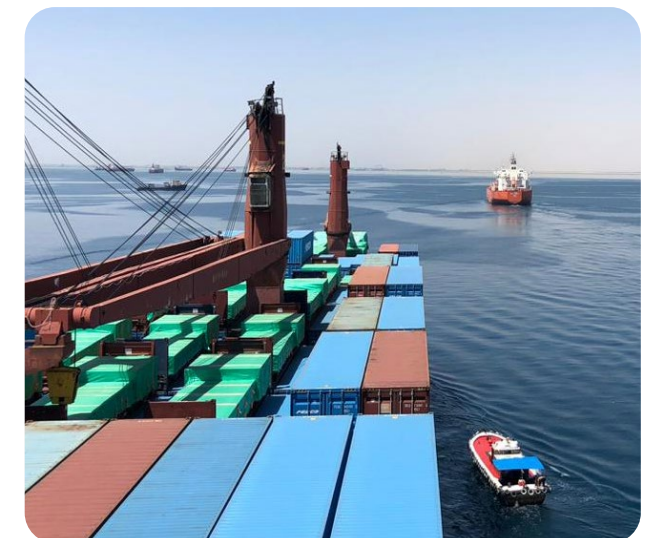
- ✦ Ballast water management:
  - International Convention for the Prevention of Pollution from Ships (MARPOL);
  - International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004.
- ✦ Treated wastewater discharge management:
  - Water Code of the Russian Federation (No. 74-FZ, 3 June 2006);
  - Russian Government Resolution No. 18 On Preparing and Adopting Decisions on Granting Water Bodies for Use dated 19 January 2022;
  - Russian Government Resolution No. 748 On Approving the Limits of Permissible Concentrations and Conditions for Discharging Harmful Substances in Russia's Exclusive Economic Zone dated 3 October 2000;
  - Order No. 552 of the Ministry of Agriculture of Russia On Approving Water Quality Standards for Fishery Water Bodies, Including Limits of Permissible Concentrations for Harmful Substances in the Waters of Fishery Water Bodies dated 13 December 2016;
  - Order No. 1118 of the Ministry of Natural Resources and the Environment of Russia On Approving the Methodology for Developing Limits for Permissible Discharges of Substances and Microorganisms into Water Bodies for Water Users dated 29 December 2020;
  - SanPiN 2.1.3684-21 Sanitary and epidemiological requirements for the maintenance of the territories of urban and rural settlements, for water bodies, drinking water and drinking water supply, atmospheric air, soils, residential premises, operation of industrial and public premises, organisation and conduct of sanitary and anti-epidemic (preventive) measures.

To prevent contamination of open water bodies, reduce negative impacts on water resources from wastewater discharge, and decrease water consumption, FESCO implemented the following measures:

- ✦ monthly monitoring of wastewater for compliance with permissible discharge limits as part of industrial environmental control conducted by an accredited organisation;
- ✦ participation in the annual marine cleanup of the Golden Horn Bay organised by the Far Eastern Interregional Office of the Russian Federal Service for Supervision of Natural Resources;

- ✦ coastal zone cleaning operations using oil-spill response and debris collection vessels under a contract with the Far Eastern Branch of Rosmorport to remove floating debris;
- ✦ marine biota monitoring studies (assessment of organisms sharing a habitat) conducted in May and September through specialised organisations, including evaluation of aquatic biological resources in operational areas to prevent negative industrial impacts;
- ✦ seabed sediment analysis in the Golden Horn Bay during May and September as part of industrial environmental monitoring to prevent seabed sediment contamination;
- ✦ participation in the Save the Salmon campaign to address Far Eastern environmental challenges and contribute to preserving biodiversity (10 thousand juvenile chum salmon released by VMTP employees into the wild 2024);
- ✦ employee awareness sessions on water conservation and sustainable usage practices.

FESCO tracks water usage from centralised sources using commercial and technical water flow meters. Quarterly reports on wastewater volume and quality are compiled and submitted to regional water basin management authorities.



FESCO container vessel en route from China to St Petersburg

## Wastewater and ballast water management

All companies within FESCO's Shipping Division strictly comply with the International Convention for the Prevention of Pollution from Ships (MARPOL), the International Convention for the Control and Management of Ships' Ballast Water and Sediments, and the International Convention on the Control of Harmful Anti-fouling Systems on Ship, observing the following requirements:

- prohibition of untreated wastewater discharge at sea;

- ban on tin-containing organic compounds in ship coatings and paints used to limit or prevent hull fouling;
- mandatory installation of wastewater treatment systems on all vessels;
- mandatory treatment of vessel ballast water.

## Reduction in greenhouse gas emissions

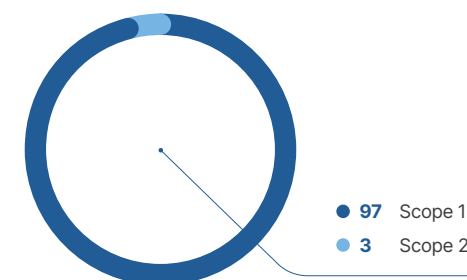
In 2024, FESCO Group companies emitted 572.5 thousand tonnes of CO<sub>2</sub>-e from their operations into the atmosphere.

FESCO Group's primary mechanism for reducing greenhouse gas emissions is the efficient use of fuel and energy resources. Through energy saving measures and reduced specific energy consumption, the Group achieved 9.9 thousand tonnes of CO<sub>2</sub>-e, or 1.7%, in emission reductions, exceeded initial projections of 8.3 thousand tonnes of CO<sub>2</sub>-e.

Target values for reducing greenhouse gas emissions were set and approved for the upcoming period, totalling 9.8 thousand tonnes of CO<sub>2</sub>-e.

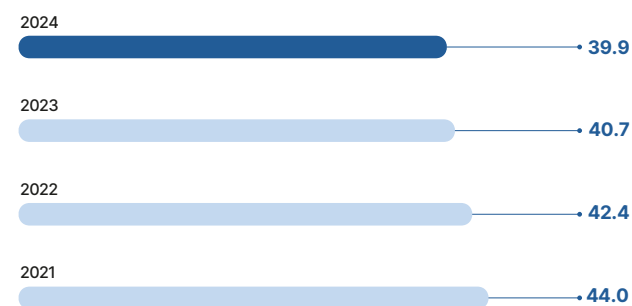
In 2024, Group facilities emitted 58.8 tonnes of atmospheric pollutants from stationary sources.

### Scope 1 and Scope2 GHG emissions,%



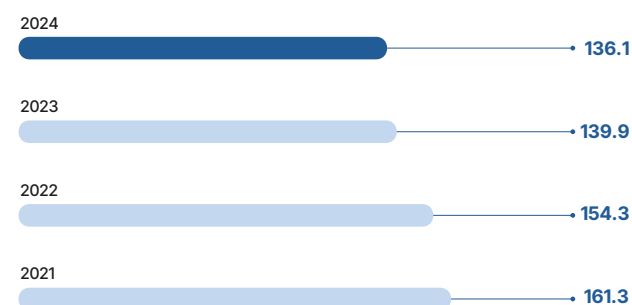
Source: Company data

### Specific greenhouse gas emissions from terminal operations (kg CO<sub>2</sub>-e / HCC)



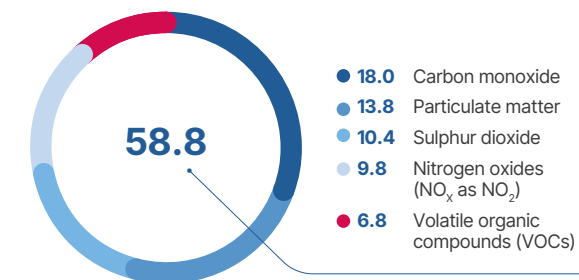
Source: Company data

### Specific greenhouse gas emissions from maritime cargo transportation (kg CO<sub>2</sub>-e / million DWT)



Source: Company data

### Atmospheric pollutant emissions in 2024, tonnes



Source: Company data

In compliance with the Agreement on Cooperation for Ensuring Favourable Environmental Conditions for Vladivostok Residents' Health and Well-Being and Minimising Environmental Impact from Coal Handling, VMTP conducted continuous tracking of suspended particulate concentrations across the port territory and at sanitary protection zone boundaries. Automated emission control data was transmitted to the Far Eastern Interregional Office of the Russian Federal Service for Supervision of Natural Resources.

As part of its operations monitoring (during August and September), VMTP engaged a specialised organisation to conduct day and night noise level measurements at control points at the nearby residential area boundaries, assessing compliance with hygienic standards. No violations of threshold levels were recorded in 2024.

## FESCO Group's Energy Policy

While creating best logistics solutions for customers across Russia and Eurasia, FESCO Group focuses on enhancing energy efficiency and reducing greenhouse gas emissions.

The Energy Policy forms the basis for analysing and setting FESCO Group's energy goals and objectives, as well as for selecting priority energy saving and energy efficiency improvement measures with the highest potential.

In 2023, FESCO successfully passed an audit for compliance with the international standard ISO 50001:2018 and its Russian equivalent GOST R 50001-2023 Energy management systems – Requirements with guidance for use.

The internationally accredited certification body provided positive feedback on the organisation of energy management systems across Group companies and identified areas for further development.



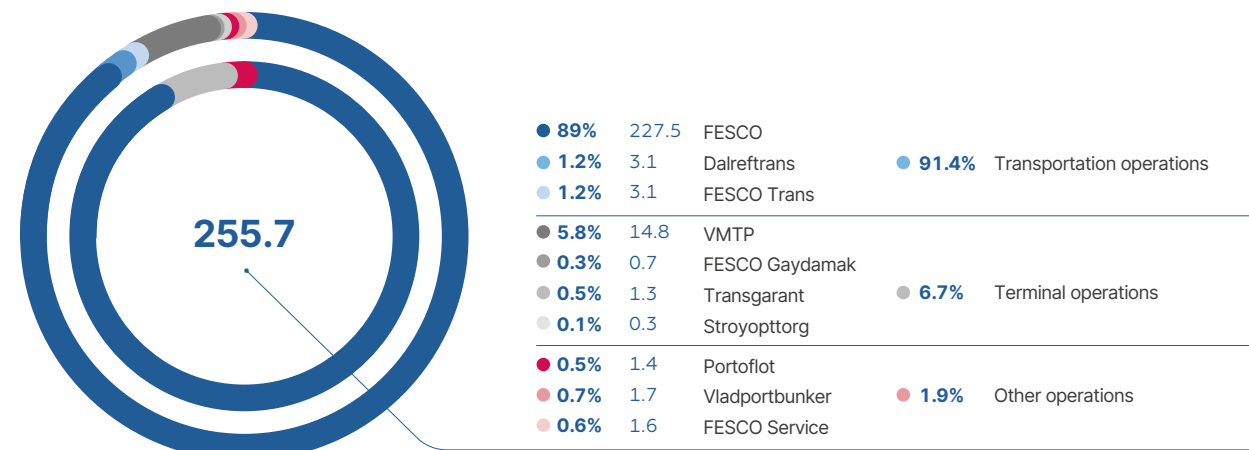


## Energy consumption

FESCO Group's fuel and energy resource usage is split between two core operational segments: transportation and terminal operations, where fuel and energy costs are allocated to maritime cargo transportation, and containerised and non-containerised cargo handling at ports and inland terminals.

In 2024, FESCO Group consumed a total of 255.7 thousand tonnes of reference fuel, of which 233.7 thousand tonnes of reference fuel (91.4%) were attributed to transportation operations and 17.2 thousand tonnes of reference fuel (6.7%) to terminal operations.

Fuel and energy consumption by FESCO Group companies by type of operations, kt of reference fuel, %



Source: Company data

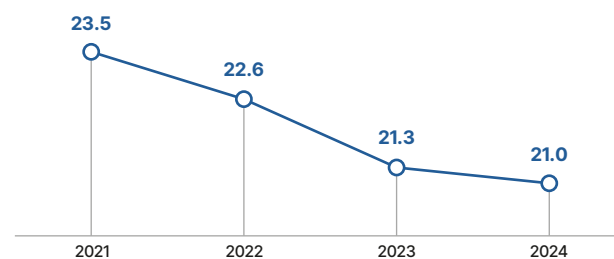
An automated corporate system for accounting fuel and energy resources was developed and implemented in 2024.

The scale of reduction in specific consumption of fuel and energy associated with FESCO Group's operations in the reporting year proves that we are on the right track with the measures we implement.

Energy intensity of container handling at FESCO's terminals stood at 21.0 kg of reference fuel per HCC in 2024, which is a 1.7% reduction YoY.

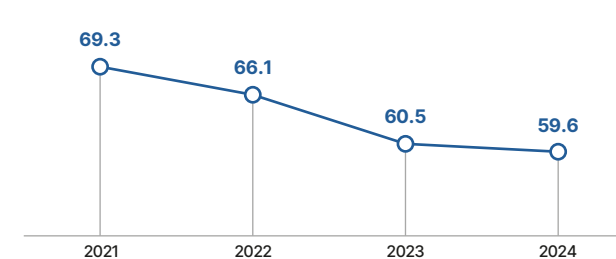
Energy intensity of cargo transportation by sea in 2024 was down by 1.6% to 59.6 kg of reference fuel per 100 DWT miles.

Energy intensity of terminal operations, kg of reference fuel / HCC



Source: Company data

Energy intensity of transportation operations, kg of reference fuel / 100 DWT miles



Source: Company data

### Key energy intensity metrics for FESCO Group's operations

Indicator	Fuel consumption, kt of reference fuel		Energy intensity of operations, kg of reference fuel / volume of operations		Energy intensity YoY change, %
	2023	2024	2023	2024	
Terminal operations					
Container cargo handling	13.24	13.09	21.3	21.0	(1.7)
Non-container cargo handling	3.50	3.39	7.74	7.39	(4.5)
Transportation operations					
Cargo transportation by sea	157.1	223.5	60.5	59.6	(1.6)
Cargo transportation by road	2.4	3.1	42.8	40.9	(4.4)
Cargo transportation by rail (refrigerated containers)	2.9	3.1	138.4	137.2	(0.9)



General view of VMTP

## Energy saving

As part of its energy management system and Energy Policy implementation, FESCO Group developed and put in place the Energy Saving and Energy Efficiency Improvement Programme for 2024, which includes organisational and technical initiatives planned by FESCO and its controlled entities in this area.

The energy saving programme targets reductions in energy consumption across maritime transport operations, building heating systems, loading/unloading equipment, special and motor transport vehicles and equipment, railway infrastructure needs, lighting system upgrades, and process flow streamlining.

# 4.3

thousand tonnes  
of reference fuel

total fuel and energy savings in 2024 driven by the Energy Saving and Energy Efficiency Improvement Programme (vs planned savings of 3.6 thousand tonnes)

### During programme implementation:

- ↗ a range of measures were implemented to restore heating grids insulation, with entrance areas of administrative and production buildings also being insulated;
- ↗ the refrigerated container fleet was renewed with containers having improved thermal characteristics;
- ↗ energy-efficient solutions were used when upgrading and constructing VMTP's outdoor lighting systems;
- ↗ electronic waybills were used in pilot mode at VMTP during 2024;
- ↗ implementation continued of the SSV (Smart Ship View) system for comprehensive monitoring of operational parameters and fuel consumption on vessels. As at the end of 2024, a total of 15 vessels were equipped with SSV solutions.

### Savings

# 2.5

kt



Marine fuel

# 376

thousand l



Diesel fuel

# 0.6

million kWh



Electricity

# 700

Gcal



Heat

The Group's fleet complies with the energy efficiency requirements of the MARPOL Convention. Fuel consumption is monitored in accordance with the approved ship energy efficiency plans (SEEMP). All vessels under FESCO management have registry certificates confirming proper data collection.

The Group's vessels operating in territorial waters near the European part of the global ocean comply with the EU MRV (monitoring, reporting, verification) Regulation, which requires them to maintain approved energy efficiency plans and collect and report data on fuel consumption, greenhouse gas emissions, and activities completed to date. These measures are also designed to reduce GHG emissions into the air.

## Personnel

People are FESCO's most valuable asset. We prioritise comprehensive staff support and regional development across our footprint as fundamental corporate commitments.

Self-realisation opportunities and talent development form cornerstones of our personnel policy. We emphasise creating comfortable working environments and establishing trust

with employees through adaptation and training programmes, professional skill development, and expanded benefits packages, including voluntary health insurance (VHI).

### Key 2024 results

# ~157

+5%  
RUB million

financial assistance  
expenditure

Nine types of financial  
assistance approved

Unified approach  
to employee incentives  
and benefits adopted

# 65.7

RUB million

occupational health and safety  
expenses

Collective bargain-  
ing agreements  
extended in full through  
31 December 2025

More than 50 educational  
solutions developed  
addressing Group needs

# >160

+23%  
RUB million

VHI expenditure

Economics and logistics  
championships  
conducted annually  
(involving four  
Vladivostok universities)

Over 15 projects  
developed jointly with  
universities

Russia's first inter-university industry championship  
for maritime specialty students organised (involving five  
Russian universities)