Environmental efficiency

Moscow Exchange's environmental footprint is rather light. Nonetheless, the Group works diligently to reduce it further and runs its business in an environmentally responsible manner.

The Exchange's activities that impact the environment are governed by the MOEX Environmental Monitoring and Industrial Control Program, which was adopted in 2017. Its key objectives are monitoring and preventing pollution, continuously reducing the environmental footprint, monitoring compliance with environmental protection programs and legislation and assessment of business processes at Moscow Exchange to ensure they are aligned with environmental regulations.

In 2017, Moscow Exchange developed Waste Generation and Disposal Limits that apply to the disposal of waste across the Group's operations. The document determines the points of waste accumulation and collection, its types and hazard classes. The Moscow Department for Environmental Management and Protection approved the document that sets waste generation and disposal limits effective for five years (until February 2023).

The Exchange maintains separate collection of waste by type, hazard class, and other parameters to ensure proper waste disposal and recycling. All employees engaged in waste collection, accumulation and storage have a working knowledge of health and safety requirements and use appropriate safety clothing and personal protective equipment. Waste of hazard classes I and II (mercury and fluorescent lamps, and used batteries, respectively) is handled by appropriately trained and skilled employees who are at least 18 years of age.

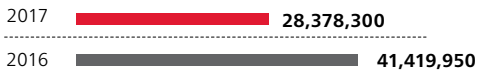
Waste collection, accumulation and disposal are performed on a consistent basis. For example, solid and food waste is disposed of daily, paper and cardboard – as often as necessary, but at least once a month, air filters – on a quarterly basis, etc. All Moscow Exchange offices have battery collection and disposal points that have been in place for at least two years. Used oil and air filters, mercury lamps, parts of office and electronic equipment, such as monitors, keyboards and cartridges, are all sent to specialist contractors for disposal.

In 2017, the Group took steps to improve its office environment with new landscaped areas in the courtyard and on the seventh and ninth floor balconies of the head office, and bike parking facilities in the adjacent territory.

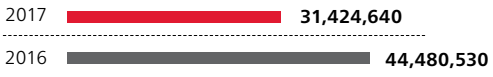
Water

In 2017, the Exchange significantly reduced its water consumption thanks to the reconstruction of the fitness club in Bolshoy Kislovsky Pereulok acting that acts as a sub-consumer of its water supply system.

Total Water Offtake, liters



Total Water Discharge[1], liters

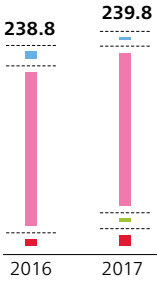


[1] Total discharge includes canalization and wastewater effluents. Discharge location: Mosvodostok (Moscow municipal discharge facilities), no pre-treatment required.

Waste

Total Waste Mass, tons

Category	2016	2017	Δ 2017/2016
Category 1	0.2	0.2	8.6%
Category 2	0	0	–
Category 3	9.9	4.4	–55.6%
Category 4	208.2	209.0	0.4%
Category 5	20.5	26.2	27.7%
Total	**238.8**	**239.8**	**0.4%**



Disposal, Dumping and Recycling Methods, tons

Method	2016	2017	Δ 2017/2016
Total	**238.8**	**239.8**	**0.4%**
Re-use	9.6	15.5	61.0%
Release of valuable components including energy	0	4.6	–
Placing in landfills	218.0	216.0	–0.9%
Other methods (deactivation and recycling)	11.2	3.7	–66.7%

Energy efficiency

Energy efficiency ,RUB thousand [2]

Resource	2016	2017	Δ 2017/2016	Δ 2017/2016
Gasoline	2,732.4	2,796.3	63.9	2.3%
Diesel fuel	172.9	144.9	–28.0	–16.2%
Electricity	53,010.7	54,192.3	1,181.6	2.2%
Heat	7,053.8	6,438.4	–615.4	–8.7%
Total	**62,969.9**	**63,571.9**	**602.0**	**1.0%**

In 2017, gasoline costs increased due to higher prices. At the same time, diesel costs decreased on the back of fewer miles traveled by vehicles that run on diesel.

Electricity consumption in kilowatt hours (kWh) was lower thanks to energy saving initiatives and relatively cool summer weather, but electricity costs ended up higher due to an increase in tariffs. Lower heating costs in 2017 were the result of a later start of the heating season and a relatively warm winter.

[2] Excluding VAT.

Environmental Safety Costs

Total environmental protection expenditures and investments, RUB thousand[1]

Costs for waste and discharge treatment and environmental remediation costs	2016	2017	Δ 2017/2016
Production and consumption waste disposal charge (tax)	75.6	78.4	3.6%
Environmental impact charge (tax)	80.7	74.1	-8.1%
Cost of pollutant wastewater discharges to the municipal sewerage	23.4	27.8	18.9%
Disposal of fluorescent lamps	41.9	59.0	40.7%
Disposal of office equipment	59.3	71.7	20.8%
Disposal of other waste (oil, air and oil filters, paper, cardboard, ferrous scrap metals)	225.9	326.7	44.6%
Disposal of bulk waste	154.7	64.0	–58.6%
Contract to obtain certification for waste of hazard classes I–IV and registration in the State Control information system of the Federal Service for Supervision of Natural Resources (Rosprirodnadzor)	0	130.0	–
Contract for report preparation and filing with Rosprirodnadzor	112.0	35.0	–68.8%
Contract to develop Waste Generation and Disposal Limits	0	245,0	–
Contract to develop the Environmental Monitoring and Industrial Control Program; waste disposal regulations for hazard classes I and II; collection, accumulation, storage, accounting and disposal regulations for production and consumption waste as well as related health and safety regulations	0	150,0	–
Total	**773.5**	**1,261.6**	**63.1%**

Environmental impact prevention and environmental management system costs, RUB thousand[1]

	2016	2017	Δ 2017/2016
Total	**397.0**	**625.0**	**57.6%**

[1] Excluding VAT.

Energy consumption by fuel type[2]

Fuel	2016[3] Natural value	2016[3] J, MJ	2017 Natural value	2017 J, MJ	Aggregate energy consumption reduction, MJ
Gasoline, liters	78,862.1	2,604,069.8	80,720.5	2,643,800.0	39,730.2
Diesel fuel, liters	5,347.7	189,189.4	4,524.4	159,600.0	–29,589.4
Electricity, kilowatt hour	11,342,061.3	40,831,420.6	10,651,437.0	38,345,173.0	–2,486,248.0
Heat, gigacalorie	5,135.5	21,517,590.0	4,548.1	19,807,500.0	–1,710,090.0

In 2017, electricity consumption decreased thanks to automatic shutdown of hallway lighting and office space ventilation during off-duty hours at the Exchange's four buildings. In winter, server air conditioning units operate in free cooling mode, and summer 2017 was relatively cool, which generated further energy savings.

Engineering equipment operations scheduled at NSD property sites provide energy savings by switching off 90% of the general ventilation and cold supply systems in office premises at night and on weekends. During the winter season, air conditioning systems in server rooms are switched to free cooling mode.

In 2016 and 2017, 503 fluorescent lamps at NSD (about 11% of the total) were replaced with LED lamps, while all new refurbishment projects of the Exchange property sites included LED lighting from the start. In 2016 and 2017, 195 LED lamps (6% of the total) were installed at such sites.

Lower heating costs compared to 2016 were the result of a later start to the heating season and a relatively warm winter.

Diesel fuel consumption in 2017 increased due to more frequent use of the diesel power generator as a result of cuts from the municipal grid. At the same time, diesel vehicles mileage dropped thanks to a reduced number of paper documents sent to customers as the Exchange partially transitioned to electronic workflow.

[2] The company did not use other energy types (including nuclear energy, electromagnetic energy, oil, fuel oil, natural gas, coal, shale or peat) in the reporting period.
[3] Discrepancies between this report and the 2016 Annual Report are attributed to energy and heat consumption (recorded on the premises at Vozdvizhenka St. 4/7) and gas consumption (recorded on vehicles used by CCP NCC) given in the report for 2017. Data for the period preceding the reporting year has been recalculated for consistency. The Exchange leases the premises located at Vozdvizhenka St.; energy saving activities are provided by the landlord.