

Ecology and Environmental Protection

Aeroflot Group is fully aware of its responsibility to society and future generations and strives to ensure a sustainable environmental balance across all areas of business which naturally fits into the airline's large-scale social responsibility programme, which is a fundamental principle of its operation.

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The Environmental Policy of PJSC Aeroflot is aimed at improving the energy efficiency and environmental performance of its products – air transportation of passengers, baggage, cargo and mail. The main priority of the policy is improving the airline's aircraft fuel efficiency, which helps reduce its environmental footprint while cutting fuel costs – a major contributor to overall operating expenses.

Reduction of environmental footprint is driven by PJSC Aeroflot's annual environmental goals, such as:

- reduction of energy resource consumption
- reduction of flight-related pollutant emissions
- reduction of pollutant emissions from ground handling and maintenance
- reduction of environmental pollution from waste generation and disposal.

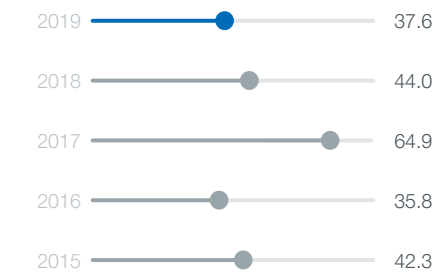
PJSC Aeroflot has in place an environmental management system. The Company's integrated management system is audited every year for compliance with ISO 9001:2015 Quality management systems and ISO 14001:2015 Environmental management systems.

In 2019, Aeroflot successfully reaffirmed its reputation as one of the safest airlines in the world by passing the IATA Operational Safety Audit for IOSA compliance for the eighth time. The IOSA certificate and operator status were extended until October 2021. The IOSA operator status is a mandatory requirement for membership in IATA, and for Aeroflot, in the SkyTeam global alliance.

Pursuant to Decree of the President of the Russian Federation No. 889 On Selected Measures to Improve Energy and Environmental Efficiency of the Russian Economy dated 4 June 2008, the Company continues to implement its Energy Saving and Environmental Performance Programme until 2020. PJSC Aeroflot's Energy Saving and Environmental Performance Programme is being updated to cover the period from 2020 to 2030. The updated version will focus on the energy efficiency of the airline's aircraft fleet.

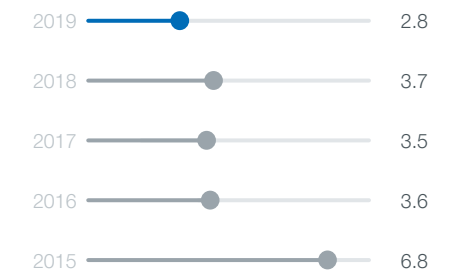
Total environmental protection costs of PJSC Aeroflot

RUB **37.6** million



Total environmental fees of PJSC Aeroflot

RUB **2.8** million



Quality management system

PJSC Aeroflot has an integrated management system in place whose efficiency and performance is regularly validated by internationally recognised external auditors. The management system has as its basic integrating element a quality management system (QMS) which has been internationally certified under ISO 9001 (Quality management systems) and registered under the IATA's industry programmes (IOSA – Operational Safety Audit) for many years. The system helps ensure that the products and services offered by PJSC Aeroflot's business units and service providers comply with its flight safety, aviation security and service quality requirements.

In order to comply with national and international requirements for third-party service control and to mitigate risks that can impact quality and flight safety, PJSC Aeroflot holds memberships with the following IATA pools:

- IFQP (IATA Fuel Quality Pool)
- DAQCP (IATA De-icing/Anti-Icing Quality Control Pool)
- ISAGO (IATA Safety Audit for Ground Operations Pool).

In the reporting period, the Company audited suppliers within the above pools with a follow-up evaluation of the adequacy of corrective actions which ensures supplier activity monitoring across the route network. Specialised committees/structures within the Company develop and implement mitigation measures for all identified risks.

Aeroflot Group's efforts to enhance the QMS are aligned with the development of a KPI-based performance evaluation framework and assessment of compliance with internal and external management system standards both as part of IATA and SkyTeam alliance and within Aeroflot Group itself. The quality management system improvement activities of Aeroflot Group in 2019 included the following:

- subsidiary airline consulting and guidance on preparing for IOSA and ISO certification audits
- continuous monitoring of the airlines' compliance with Aeroflot Group's requirements
- coordination and control of compliance with the EU ETS requirements
- coordination and monitoring of activities necessary for ensuring compliance with CORSIA, the Carbon Offsetting and Reduction Scheme for International Aviation.

On 1 January 2019, PJSC Aeroflot undertook to comply with ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which calls for the monitoring, reporting and verification (MRV) of GHG emissions from international flights by aircraft operators and, as of 2027, CO₂ emission compensation obligations.

To further improve its QMS, PJSC Aeroflot implements innovative management approaches and streamlines its internal processes while using tools that are unique in the Russian air transportation market. These efforts improve service quality and ensure a high level of flight safety.

Fuel efficiency and air quality initiatives

Managing fuel efficiency is one of the Company's top priorities. Use of modern and fuel-efficient aircraft reduces greenhouse gas (GHG) emissions. Almost the entire Aeroflot fleet complies with ICAO standards for noise levels and atmospheric pollution.

PJSC Aeroflot has a corporate GHG emission management system in place including a CO₂ emission monitoring and accounting system whereby the airline ensures compliance with Russian and international requirements for monitoring, reporting and verifying GHG emissions.

PJSC Aeroflot's CO₂ emissions monitoring and accounting system covers all emission sources across its entire route network.

In accordance with the EU ETS requirements, PJSC Aeroflot passes CO₂ emission verification audit every year followed by buying missing quotas on a European exchange to compensate the verified operational CO₂ emissions.

PJSC Aeroflot reports on GHG emissions from domestic flights every year in accordance with the Methodology and Guidance for Quantitative Assessment of Greenhouse Gas Emissions by Organisations Engaged in Business and Other Activities in the Russian Federation as approved by Order No. 300 of the Ministry of Natural Resources and Environment of the Russian Federation, dated 30 June 2015.

As 99% of GHG emissions come from air flights, Aeroflot airline systematically implements the following measures to reduce emissions from fuel combustion by air transport:

- Timely repair and replacement of aircraft parts
- Aircraft replacement with newer and more economical models
- Implementation of energy-efficient technologies and technical solutions in aircraft
- Evaluation and selective testing of energy resources with lower carbon intensity for use as main fuel for propulsion systems
- Evaluation of possible use of certified biofuel
- Assessment and analysis of specific GHG emissions and energy intensity for main types of products
- Optimisation of the route network and use of new piloting techniques to reduce noise and emissions from aircraft engines

Aeroflot develops a fuel efficiency and cost-cutting programme every year to further improve its fuel efficiency and reduce CO₂ emissions. The programme calls for the following activities:

- introducing standard volumes for refuelling aircraft
- minimising the difference between projected and actual revenue loads in airports of departure
- centre-of-gravity control
- optimal use of auxiliary power unit
- lower fuel consumption through reducing water supplies on board
- use of ground systems for pre-flight air conditioning or heating of aircraft cockpit and cabins
- improving aerodynamics through surface washing
- improving engine efficiency through ramjet duct cleaning.

Sustainable Development continued

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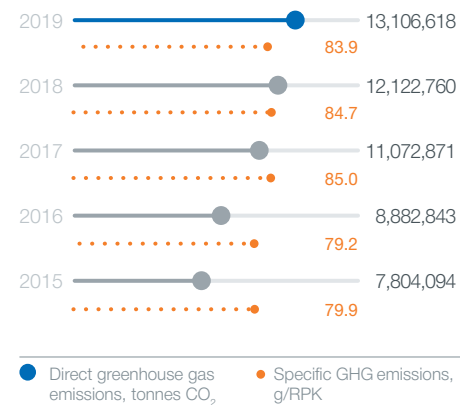
In 2019, these activities helped PJSC Aeroflot reduce fuel consumption:

by **17.7** thousand tonnes, which is equivalent to decreasing CO₂ emissions by **55.7** thousand tonnes CO₂

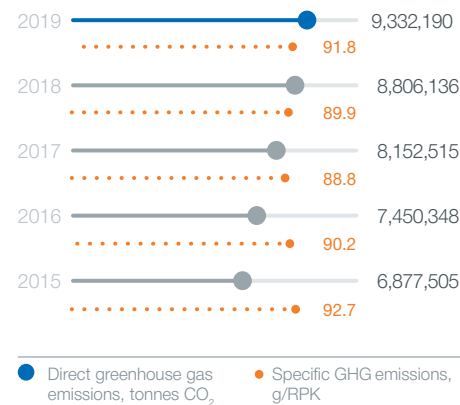
This reduction of CO₂ emissions corresponds to:

286 flights of Boeing 777-300 between Moscow and Vladivostok
6,829 flights of Sukhoi Superjet 100 between Moscow and Saint Petersburg

Direct and specific GHG emissions from Aeroflot Group airlines



Direct and specific GHG emissions from Aeroflot airline



The Company provides passengers with information on the carbon footprint of its flights: the corporate website has an online CO₂ calculator that estimates personal footprint from the flight.

In addition to the above activities to prevent ambient air pollution, the Company also compiles records and inventories of stationary emission sources on a regular basis. Aircraft parts and components are painted in stationary paint booths equipped with filters. The gas cleaning equipment performance is checked every year. The cleaning equipment efficiency is 85% to 90%.

Note. Data for 2015–2016 do not include Orenair and Donavia emissions.

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Carbon Disclosure Project

PJSC Aeroflot participates in the international Carbon Disclosure Project (CDP) that calls for disclosing climate change management and GHG emission data. Under the CDP, companies from across the globe make standardised reports on their greenhouse gas emissions and climate change activities.

PJSC Aeroflot's CDP score (D – level of disclosure) remained unchanged from the previous year.

In order to improve its CDP score, PJSC Aeroflot developed and implemented a corporate GHG emission management system in 2019. Under the system, the airline continuously monitors direct and indirect GHG emissions and verifies GHG emission reports in accordance with ISO 14064-1 every year.

PJSC Aeroflot's Greenhouse Gas Emission Management Guidelines were approved, and the Company prepared reports on direct and indirect GHG emissions in 2017 and 2018, which successfully passed verification for compliance with ISO 14064 by a third party – the Russian branch of Bureau Veritas, a world leader in certification and verification.

Sustainable water use

Aeroflot is committed to sustainable water use and reducing negative impact on waterbodies. The Company monitors treatment performance and the quality of wastewater and surface water discharged by the treatment facilities of PJSC Aeroflot's offices in Melkisarovo on a monthly basis. In April 2019, the Company suspended the treatment facility operation to replace filter elements, clean and paint holding tanks.

As the offices discharge little wastewater, no violations of pollutant weight limits were detected in 2019.

Aeroflot timely discloses all the required environmental data on the use of water resources to environmental authorities.

Water consumption by PJSC Aeroflot*, thousand cubic metres

	2015	2016	2017	2018	2019
Total	133.2	134.2	135.4	154.1	126.3
from the public water supply network	133.2	134.2	135.4	154.1	126.3

Water discharge by PJSC Aeroflot*, thousand cubic metres

	2015	2016	2017	2018	2019
Total	134.0	134.9	136.3	151.8	109.4
treated water**	1.4	1.2	1.4	3.1	4.7
conveyed to other companies for treatment***	132.6	133.7	134.9	148.7	104.7

* Data for Moscow and the Moscow Region.
** Surface runoff from the office premises.
*** Sewerage.

Sustainable Development
continuedReducing and disposing
of industrial and commercial waste

Aeroflot places high emphasis on setting up proper industrial waste collection sites and waste sorting. The Company regularly inspects land and sites for temporary storage of industrial waste and tracks industrial and commercial waste volumes and movement. All waste is disposed of in due time. The Company submits all the required environmental reporting documents to environmental authorities.

A total of 10.2 tonnes of paper and cardboard was handed over for recycling in 2019, which helped save 102 trees and reduce CO₂ emissions by 17.4 tonnes. The Company also set up battery collection sites at its facilities in Moscow and Sheremetyevo airport.

No critical industrial spills were registered at PJSC Aeroflot in 2019.

Seeking to raise environmental awareness among its employees, the Company regularly runs environmental workshops and webinars.

Total waste by hazard class, tonnes

	2015	2016	2017	2018	2019
Total	9,777.2	8,852.8	8,365.7	9,949.2	8,791.0
Hazard class 1	2.2	3.9	2.4	2.2	2.1
Hazard class 2	1.4	4.8	6.4	5.4	3.7
Hazard class 3	2,448.5	2,508.3	2,353.4	3,540.2	2,526.1
Hazard class 4	6,919.6	5,643.7	5,352.1	5,663.2	5,397.8
Hazard class 5	405.5	692.0	651.4	738.2	861.3

Total waste by disposal method, tonnes

	2015	2016	2017	2018	2019
Recycling	308.5	258.7	262.2	118.3	162.0
Treatment	2,325.6	2,430.1	2,247.7	3,572.6	2,565.0
Landfilling	7,138.4	6,164.0	5,855.8	6,258.3	6,064.0

Procurement

Aeroflot Group uses modern, competitive procurement practices and works with a wide range of suppliers. The key principles of procurement are bidding transparency, equality, fair treatment of, and non-discrimination against, bidders. The Group works to attract more bidders to achieve maximum economic benefit and cut costs.

Procurement activities at Aeroflot Group comply with Federal Law No. 223-FZ On Procurement of Goods and Services by Certain Legal Entities dated 18 July 2011, PJSC Aeroflot's Regulations on Procurement of Goods, Works and Services, relevant policies of Aeroflot's subsidiaries and other procurement-related regulations adopted by the Russian government.

Our procurement practices are based on:

- information transparency
- targeted, cost-effective expenditures to procure goods, works and services, as well as focus on cost-cutting initiatives
- unlimited access to bidding through eliminating non-measurable bidder requirements
- equality, fairness, non-discrimination, ensuring that no unreasonable and restrictive business practices are applied towards bidders, promotion of fair competition.

Key procurement objectives are to:

- meet the Group company's product and service needs in time and in full
- increase the share of competitive procurement
- increase the share of online procurement
- prevent discrimination and unreasonable restrictions on the number of bidders
- support SMEs.

Procurement highlights of Aeroflot Group¹

	2018	2019
Total procurement, RUB million*	750,463	606,028
Competitive procurement (by value), %	30.8	46.9
Single source procurement, %	69.2	53.1
Savings on competitive procurement, RUB billion**	7.5	51.1
Average number of bidders	3.0	2.9
Procurement from SMEs, %	78.0	82.5

* Total procurement is calculated as total payments made during the reporting year under contracts signed as a result of procurement processes. Data for 2018 have been amended.
** Savings are calculated as the difference between the initial (maximum) price of the tender and the winning price, excluding tenders where the initial (maximum) price is calculated based on a given rate, tariff or formula.

1. Aeroflot Group procurement data include: PJSC Aeroflot, JSC Rossiya Airlines, JSC Aurora Airlines, JSC Aeromar and LLC A-Technics.