

Risk management

We fully comply with the legislation of the countries in which we operate, and constantly analyze changes made to respective legislative requirements, thereby allowing us to promptly identify and assess potential risks.

The management of risks and the environmental aspects of operations forms an integral part of the overall corporate risk management system. A Register of Material HSE Risks and a Register of Material Environmental Aspects have been created and are

regularly updated. The materiality criteria when assessing risks are the likelihood and scope of the consequences of each identified risk, with due consideration of geographical factors.

Measures to mitigate potential risks are included in the targeted programs, with additional measures stipulated for material risks. The performance of these measures is monitored during the internal audits of LUKOIL Group subsidiaries and during the preparation of corporate reporting.

Voluntary civil liability, third-party liability, and environmental liability insurance are taken out for LUKOIL Group subsidiaries to protect against catastrophic risks.

All lines of business performed by LUKOIL Group subsidiaries are considered during risk identification and assessment, including the purchase of products and services from suppliers and contractors performing work at our facilities.

Environmental safety program

In 2017 the execution of the targeted Environmental Safety Program of LUKOIL Group Subsidiaries for 2014-2018 continued. After its consideration by the Health, Safety, and Environment Committee of PJSC LUKOIL, it was concluded that it was successfully implemented.



Target 8.4.

Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation.

ENVIRONMENTAL SAFETY PROGRAM IMPLEMENTATION RESULTS, 2014-2017

	2013 ¹	2017	2017/2013
APG utilization rate in Russia, %	87.7	95.2	↑ 7.5 p.p.
Air emissions of pollutants, thousand tonnes	735.5	502.5	↓ 31.7%
Discharge of undertreated and contaminated wastewater, million cubic meters	2.3	1.1	↓ 52.2%
Volume of water consumption for own needs, million cubic meters	432.9	376.4	↓ 13.1%
Volume of waste accumulated in the pre-privatization period ² , thousand tonnes	576 (at 31.12.2013)	304.5 (at 31.12.2017)	↓ 271.5 thousand t
Remediation of disturbed and oil-contaminated land, thousand hectares	3.06	9.2	↑ x3 times

Water use

Water is used at all stages of the production cycle in the oil and gas sector (from exploration drilling to refining crude into finished products and its delivery to consumers). At the same

time, people, animals, and vegetation also require water, which illustrates the social significance of sustainable water use. Access to clean drinking water is a fundamental human right.

¹ We compared the indicators with 2013, which was the previous year that the ESP was implemented.

² Pre-privatization period waste: waste accumulated at facilities in the period preceding their privatization and/or the acquisition of licenses by LUKOIL Group.



Target 6.3. By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

Target 6.4. By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

Target 6.5. By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

Water consumption

Despite the wide availability of water in Russia³ and the less pronounced impact of the oil and gas industry on the consumption of fresh water than other sectors of the economy⁴, improving the efficiency of water use and maintaining clean surface water and groundwater are very important objectives of the Company.

The HSE Policy³ of PJSC LUKOIL in the 21st Century contains obligations on the efficient use of natural resources, including water, and is aimed at:

- minimizing the consequences of business activity, including a reduction in the use of water resources
- reducing production dependence on possible adverse external factors, including natural ones (droughts, the drying up of surface water bodies, pollution of groundwater sources)

The bulk of LUKOIL Group’s production activity in Russia is performed in regions



The full text of the document can be found on the Company’s website



that do not now experience fresh water shortages. However, in other countries we factor in such potential risks as a shortage of drinking water, as well as possible droughts or floods, which could lead to water supply interruptions, a breakdown in the supply chain, and increased operating costs.

Prompt risk identification enables us to take corresponding measures (to install modern equipment, including that which reduces water use) to facilitate more efficient water use. Our basic approach to resolving the issue of sustainable water use is to introduce systems for reverse water supply and the reuse of water at production

enterprises and make the optimal utilization of water intake, including oil field water. New production facilities are equipped in all cases with systems for reverse water supply and the reuse of water and treatment facilities.

A wastewater and oil field water treatment facility was built at the Yaregskoye field (Komi Republic) in 2017. The facility will be used to generate steam required to extract high-viscosity oil. The amount of water taken from surface sources will be reduced due to the introduction of a closed water-use cycle at the field.

VOLUMES OF REVERSE WATER SUPPLY AND REUSED WATER AT LUKOIL GROUP SUBSIDIARIES IN RUSSIA, million cubic meters

	2015	2016	2017
Volume of reverse water supply	2,287.8	2,371.9	2,253.1
Volume of reused water	908	930.6	875.5

Comment. The fall in the volume of formation water produced with oil is due to a decline in oil production in Russia as a result of external limitations imposed under an agreement with OPEC.

Projects to provide local communities with drinking water are implemented as part of our social partnerships with the southern regions of Russia and in foreign countries with a hot climate.

Through the implementation of the LUKOIL Environmental Safety Program we significantly reduced water consumption from natural sources: this indicator fell by 7.5% from 2015 to 2017.

Low levels of fresh water consumption are maintained by subsidiaries in all main production lines of business. In these conditions, general indicators of water withdrawal and water consumption are significantly influenced by electric power engineering subsidiaries, which are large consumers of water (used for steam generation and cooling equipment in central heating and power plants). The availability of these assets is a special

feature of the LUKOIL business model in comparison with other oil and gas companies. In 2017 the volume of water used for its own needs by electric power engineering subsidiaries amounted to 65.1% of the water consumption used for its own needs by Russian subsidiaries of LUKOIL Group.

³ See World Resource Institute <http://www.wri.org/resources/maps/aqueduct-water-risk-atlas>

⁴ See Water in the Energy Industry (BP International, 2013).