USE OF WATER RESOURCES

When using water resources, Gazprom Neft seeks to reduce water consumption and discharges in wastewater as well as improve the environmental attributes of water bodies and their coastal areas.

The Company regularly monitors water protection zones as well as surface water, groundwater, and wastewater and assesses the bottom sediment conditions of surface water bodies in the areas where it operates. Scientists from the Polar Research Institute of Marine Fisheries and Oceanography are carrying out comprehensive studies of the water environment as well as key hydrological and hydro-chemical indicators of the water condition near the Prirazlomnaya offshore platform.

Key water resource conservation projects in 2017 included two major projects implemented by the Company as part of the Year of Ecology federal action plan in Russia: the completion of construction on the 'Biosphera' treatment plants at the Moscow Oil Refinery and the start of construction on similar facilities at the Omsk Oil Refinery. Investment in the treatment facilities at the Moscow Oil Refinery amounted to RUB 9 billion. The complex consists of a multi-stage wastewater treatment system that

99.9%

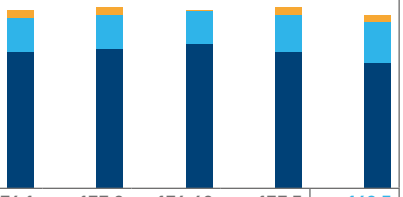
DEGREE OF WATER TREATMENT AT THE MOSCOW OIL REFINERY

5%

REDUCTION IN TOTAL WATER CONSUMPTION IN 2017

STRUCTURE OF WATER CONSUMPTION[1] (MN M³)

Source: Company data



	2013	2014	2015	2016	2017
Total water consumption	**174.1**	**177.2**	**174.40**	**177.5**	**169.5**
From underground sources	133.6	135.9	141.0	133.0	122.6
From surface sources	32.9	33.7	32.7	36.4	40.2
Received from other organizations	7.6	7.7	0.7	8.1	6.7

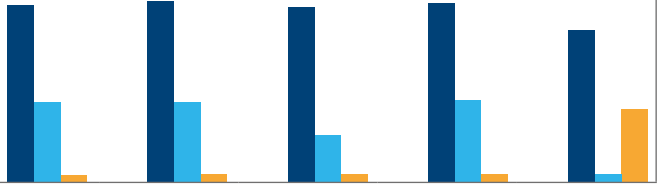
"The Moscow Oil Refinery is implementing an ambitious programme, which should result in a roughly 75% reduction in the enterprise's environmental impact. With the introduction of treatment facilities, the refinery will reduce the intake of water from the Moskva River by 60% due to the recycling of treated waters within a closed cycle. This is good news for all residents of the capital and the suburbs".

Sergey Sobyanin

Moscow Mayor

WATER USAGE[2] (MN M³)

Source: Company data



	2013	2014	2015	2016	2017
Use in water recycling systems	396.7	406.5	393.7	403.1	341.6
Transfer to other consumers without use	179.3	180.3	107.1	184.9	19.3
Use in water reuse systems	17.8	18.0	18.1	18.6	165.4

1 — The withdrawal of water from surface sources has increased due to heightened requirements for reservoir pressure maintenance systems.
2 — The decrease in the use of recycled water is due to a stoppage in the first process flow at the Omsk Oil Refinery for repairs and the reconstruction of process units (consumers of recycled water).

includes mechanical, physicochemical, biological, filtration and ultrafiltration stages as well as a reverse osmosis unit. The closed water treatment cycle will make it possible to recycle up to 75% of treated water in production. The technological solutions drastically reduce the total area of the treatment facilities, make them more compact, and ensure the technological stages of water treatment are hermetically sealed.

The Omsk Oil Refinery has begun reorganizing the recycling water supply system in order to meet the production needs of some of the units. Local water units will ensure the uninterrupted operation of base oil production and will also increase the reliability of technological processes, as the water recycling systems will be split up and decentralized.

SPECIFIC WATER CONSUMPTION AND DISPOSAL INDICATORS (M^3/T)

	Specific water consumption for the Company's internal needs		Specific disposal of contaminated water to surface water bodies	
Indicator	**2016**	**2017**	**2016**	**2017**
Extracted hydrocarbons (TOE)	1.672	1.521	0.000	0.000
Refined hydrocarbons (TOE)	0.224	0.347	0.0017	0.0017

Biosphera at the Moscow Oil Refinery

The efficiency index of the multistage water treatment system at the refinery exceeds 99.9%.

During the first stage, water passes through a pressure flotation unit, where an air flow knocks out mechanical impurities and petroleum products. Then the water passes into the membrane bioreactor where the wastewater is mixed with silt, which contains microorganisms that are specially grown for Biosphera and are capable of absorbing and processing residual petroleum products. After it does its job, the silt is filtered by membranes whose pore diameter is smaller than that of human hair. In the final stage, the purified water passes under pressure through 200 tonnes of activated carbon and 1,440 reverse osmosis membranes in which the size of the cells does not exceed that of a water molecule. The purified water then is put back into production and the filtered petroleum products are used for refining. Some of the purified water is transmitted directly by pipes to the municipal sewage treatment facilities. The refinery has no open sewage to the Moskva River.

In 2017, experts from the Green Patrol national public organization presented the Moscow Oil Refinery with a certificate recognizing the quality of the sewage treatment system's modernization – 'Green Certificate – Modernization Carried Out'. The decision was made based on an analysis of samples that environmentalists selected before and after the launch of the innovative Biosphera treatment facilities.

The Biosphera project was among the winners of the annual Ecoworld 2017 International Ecological Award in the category 'Environmental Developments, Resource Conservation, and Non-Waste Technologies'.

"Purification using a membrane bioreactor is more expensive than other options, but this is the only technology that is promising for domestic and industrial wastewater, especially in urban conditions. There are only a few examples of this technology being used in Russia. In oil refining it is quite unique".

Alexander Kuznetsov

Associate Professor in the Biotechnology Department at Mendeleev University of Chemical Technology