PROTECTING THE ATMOSPHERE

The Company made progress in 2017 in addressing one of its main environmental objectives – reducing air pollutant emissions.

Key projects that made it possible to reduce gross emissions by 26% compared with 2016 included:

- APG utilization programmes
- an increase in APG consumption for oil treatment through the increased extraction of production fluid
- the commissioning of external gas transmission systems at gas processing plants
- repairs to the first process flow at the Omsk Oil Refinery
- the continuation of the modernization programme for the Moscow Oil Refinery: major repairs to the Big Ring installations, the reconstruction of the catalytic cracking unit (G-43-107), and the completion of the modernization of primary oil refining unit furnaces (crude vacuum unit-6) with conversion to eco-friendly gas fuel

Specific air pollutant emission indicators in 2017 amounted to 3.17 kg/tonne for extracted hydrocarbons (TOE) and 1.09 kg/tonne for refined hydrocarbons (TOE).

21%

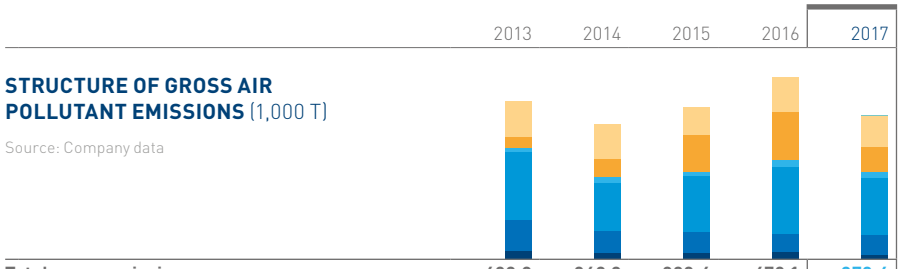
REDUCTION IN AIR EMISSIONS IN 2017

8,708 BN M³ +15%

APG UTILIZATION

STRUCTURE OF GROSS AIR POLLUTANT EMISSIONS (1,000 T)

Source: Company data



	2013	2014	2015	2016	2017
Total gross emissions	**408.3**	**348.9**	**393.4**	**470.1**	**372.6**
Solids	20.9	13.5	13.8	18.4	10.5
Hydrocarbons (without VOCs)	79.1	57.6	55.8	46.2	49.4
Carbon monoxide (CO)	177.1	125.9	143.7	173.6	147.8
Nitrogen oxides (NOx)	9.5	13.2	10.5	18.0	17.4
Sulphur dioxide (SO_2)	30.2	46.8	96.0	124.8	64.4
Volatile organic compounds (VOCs)	91.1	91.5	72.6	88.4	81.3
Other gaseous and liquid substances	0.4	0.4	1.0	0.7	1.8

Products with improved environmental attributes

The Omsk Oil Refinery produced the first batch of new marine fuel with improved environmental attributes.

Thanks to minimum sulphur content – no more than 0.1% – the product is suitable for use in emission control zones identified by the International Convention for the Prevention of Pollution from Ships (MARPOL). The new fuel is certified in accordance with the requirements of the technical regulations of the Eurasian Economic Community.

MODERNIZATION OF THE MOSCOW OIL REFINERY

The Moscow Oil Refinery completed the key stage of the reconstruction of the catalytic cracking unit (G-43-107), which is designed for the production of high emission standard Euro-5 fuel components.

The refinery has only been producing Euro-5 fuel since 2013, accounting for 40% of the market in the Moscow region. Modern fuel with improved environmental attributes has made it possible to reduce total air emissions in the capital from the use of vehicles.

RECONSTRUCTION WILL RESULT IN

- a 20% increase in the refinery's annual capacity to 2.4 million tonnes of raw materials
- an increase in the refinery's energy efficiency level
- an increase in the depth of oil refining and the output of light petroleum products