

Assessments of climate change risks are taken into account when establishing the Uniform Scenario Conditions (USC) used to develop strategies, evaluate investment projects, and create annual and mid-term plans. A baseline USC scenario provides for the influence of existing national

programs adopted under the Paris Agreement on the global balance of the primary consumption of energy resources. In addition, the USCs include a forecast of the cost of CO₂ emissions, which is used in strategic planning processes.

A scenario related to the accelerated reduction of hydrocarbon consumption in the transport sector has also been developed, in order to assess corresponding risks and to test the Company's sustainability strategy.

GOALS AND RESULTS



Based on the results of 2018, emissions of greenhouse gases fell significantly in Russian LUKOIL Group entities, and also declined in our foreign entities.

Our goal⁵ - a 1.2% reduction in greenhouse gas emissions among Russian entities of LUKOIL Group by 2020 - was achieved ahead of schedule in 2018.

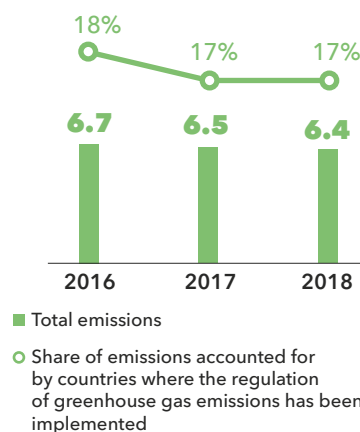
Direct greenhouse gas emissions in Russian LUKOIL Group entities (Scope 1), million tons of CO₂E

	2016	2017	2018
Total emissions, including:	31.29	31.14	29.99
Carbon dioxide	29.85	29.87	29.02
Methane	1.44	1.27	0.97
Share of methane, %	4.8	4.2	3.2

Notes. 1) Calculations of greenhouse gas emissions by LUKOIL Group Russian entities were performed in accordance with the method of the Ministry of Natural Resources of the Russian Federation⁶. Calculations of emissions by LUKOIL Group foreign entities were performed in accordance with the national methods of the countries in which they operate. The indicator "Volume of Direct Greenhouse Gas Emissions" was checked as a part of an audit of the Report on Operations in the Sphere of Sustainable Development, based on the auditor's method (auditor - JSC KPMG).

2) The value presented in the "Share of emissions accounted for by countries where the regulation of greenhouse emissions has been implemented" line item is calculated as the ratio of emissions released by European oil refineries (PETROTEL-LUKOIL S.A., LUKOIL Neftochim Burgas AD, ISAB S.r.l.) to the total emissions released by both European refineries and Russian LUKOIL Group entities. (Information on LUKOIL Uzbekistan Operating Company LLC is not taken into account when calculating the above value, as no regulation of greenhouse emissions has been implemented in Uzbekistan at the state level.)

Direct greenhouse gas emissions in foreign LUKOIL Group entities, million tons of CO₂E



⁵ The target indicator has been established on the basis of calculations performed at PJSC LUKOIL under planned measures for APG utilization within the relevant program.

⁶ Order No. 300 of the Ministry of Natural Resources dated June 30, 2015 (registered with the Ministry of Justice under No. 40098 as of December 15, 2015) "On Approving Methodological Instructions and Guidelines for the Quantitative Determination of the Volume of Greenhouse Gas Emissions by Organizations Engaged in Business and Other Activities in the Russian Federation."

According to the results of 2018, over 90% of total direct gross GHG emissions of LUKOIL Group in Russia were produced by enterprises in energy, oil refining, and oil and gas production industries. The main contribution (around 80%) to the total direct emissions is made by stationary sources of fuel combustion. Flaring made up about 10% of total emissions in 2018

and was at the same level as emissions from production processes.

Methane emissions made up 3.2% of total GHG emissions according to the results of 2018. Almost the entire volume (98.5%) of methane emissions from LUKOIL Group organizations comes from oil and gas production processes (in the process

of APG extraction, during preventive maintenance work on equipment and in case of equipment failures). The implementation of projects on efficient APG use, energy consumption reduction, and combustion system optimization contribute to lowering methane emissions.



In Russian oil and gas extraction entities, thanks to a material increase in the beneficial use of APG based on 2018 results, greenhouse gas emissions saw a significant fall compared to 2017 (by 773,000 tons of CO₂E, which amounted to 9%).

In the Russian oil refining segment, the gross volume of greenhouse gas emissions fell (by 2.8% compared to the 2017 level). These results were achieved thanks to a redistribution of volumes of fuel used (a decline in liquid fuel and

an increase in gaseous fuel), as well as reduced raw materials consumption in hydrogen production.

In the foreign oil-refining entities of LUKOIL Group the total volume of

emissions declined by almost 0.7 million tons of CO₂E in 2018 compared to 2016 as a result of implementing projects to improve the energy efficiency of oil refining plants (ORP, oil refineries).

Specific indicators of greenhouse gas emissions by Russian LUKOIL Group entities, broken down by types of activity (Scope 1)

	2016	2017	2018
Oil and gas producing entities, tons of CO ₂ E/ton of oil equivalent in produced hydrocarbons	0.108	0.088	0.079
Oil-refining entities, tons of CO ₂ E/ton of processed raw materials	0.173	0.209	0.204
Petrochemical entities, tons of CO ₂ E/ton of processed raw materials	0.352	0.370	0.322
Oil product supply entities, tons of CO ₂ E/ton of oil products sold	0.001	0.001	0.001
Transportation entities, tons of CO ₂ E/ton of oil or oil products transported	0.004	0.004	0.004
Energy sector entities (without LLC LUKOIL-ENERGOSSETI), CO ₂ E/ MWh of generated electrical and heat energy	0.339	0.332	0.326

Notes. Fluctuations in the indicators for oil refining and petrochemical entities are due to changes in the production volumes of end products.