

# REPORTING

In preparing public carbon reporting, we strive for fuller disclosure of climate data in accordance with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and the new benchmarking system for companies to ensure "net zero" emissions under the Climate Action 100+ initiative.

In 2020, in preparation for the development of the climate strategy and the setting of a new GHG reduction goal, we performed a full inventory of emission sources and calculated emissions of the three types of GHG emissions (methane, carbon monoxide, nitrous oxide) in accordance with the new methodological approaches (GHG Protocol) and the recommendations of Russian regulatory documents<sup>1</sup>. The data is consolidated based on the "operational control" criteria. Based on the results of the adjusted methodological approach to the consolidation of GHG emissions data, indicators for 2016–2020 are presented in the approved reporting boundaries.

The inventory data reflects a consistent decrease in GHG emissions (Scope 1 + 2) for LUKOIL Group between 2017 and 2019<sup>2</sup>. The reduction in direct emissions is mainly due to an increase in the share of APG utilization.

The reduction of indirect (energy) emissions was achieved as a result of the implementation of APG utilization and energy efficiency programs at production and processing entities.

Details are in the "APG utilization and flaring reduction" and "Energy conservation" subsections of this section of the Report.



<sup>1</sup> The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition; Methodology and Guidelines for Quantifying Greenhouse Gas Emissions by Entities Engaged in Economic and Other Activities in the Russian Federation approved by Order of the Ministry of Natural Resources and Environment of the Russian Federation of June 30, 2015 No. 300.

<sup>2</sup> Methodological Guidelines for Quantification of Indirect Energy Emissions of Greenhouse Gases approved by Order of the Ministry of Natural Resources and Environment of the Russian Federation of June 29, 2017 No. 330; 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

**GHG emissions of LUKOIL Group**

Indicators	2016	2017	2018	2019	2020
<b>Scope 1. Direct gross GHG emissions, million tonnes of CO<sub>2</sub>E</b>	40.150	40.448	39.599	39.796	36.705
Including by GHG composition:					
CO <sub>2</sub> , million tonnes of CO <sub>2</sub> E	38.574	39.024	38.615	38.999	35.764
Methane (CH <sub>4</sub> ), million tonnes of CO <sub>2</sub> E	1.545	1.396	0.959	0.772	0.916
Share of methane, %	3.8	3.5	2.4	1.9	2.5
Nitrogen monoxide (N <sub>2</sub> O), million tonnes of CO <sub>2</sub> E	0.031	0.028	0.025	0.025	0.024
Other GHGs	0	0	0	0	0
<b>Scope 2. Indirect (energy) GHG emissions (CO<sub>2</sub>), million tonnes of CO<sub>2</sub>E</b>	10.435	10.450	8.947	8.636	6.947
Scope 1 + Scope 2, million tonnes of CO <sub>2</sub> E	50.585	50.897	48.546	48.433	43.651
<b>Total energy consumption (purchased and internally generated) within the calculation of GHG emissions (Scope 1 + Scope 2), excluding mobile sources, million GJ</b>	NA	NA	502	502	465

**Notes.**

- Detailed data, including the reporting boundaries, are given in Appendix 7.
- In the LUKOIL Group Sustainability Report 2019 data on GHG emissions (Scope 1) were presented based on calculations in accordance with the previously used methodology: "Methodology and Guidelines for Quantifying Greenhouse Gas Emissions by Entities Engaged in Economic and Other Activities in the Russian Federation" approved by Order of the Ministry of Natural Resources and Environment of the Russian Federation of 30 June 2015 No. 300. The 2019 Report contains the following information: 2016 — 38.02 million tonnes CO<sub>2</sub>E; 2017 — 37.85 million tonnes CO<sub>2</sub>E; 2018 — 36.44 million tonnes CO<sub>2</sub>E; 2019 — 37.22 million tonnes CO<sub>2</sub>E.
- In 2020, the reduction in GHG emissions was mainly driven by a decrease in demand and production of major types of products due to the pandemic.
- The increase in CO<sub>2</sub> emissions in 2017 was caused by a rise in exploration and production drilling in the Exploration and Production business segment.
- The 2020 results are not indicative because they are mainly driven by changes resulting from the pandemic.
- In the LUKOIL Group Sustainability Report 2020, the indicators of greenhouse gas emissions were adjusted compared to those presented in the Annual Report of PJSC LUKOIL 2020.

**Greenhouse gas emissions (Scope 1) of LUKOIL Group, by type of activity and geography, million tonnes of CO<sub>2</sub>E**

	2016	2017	2018	2019	2020
<b>Russian entities</b>	33.765	34.043	33.403	32.851	30.780
Exploration and Production	10.883	10.043	9.833	10.065	9.920
Oil Refining and Petrochemicals, KGPZ and LLK International	10.170	11.454	11.271	11.217	10.770
Power Generation	12.625	12.468	12.213	11.479	9.980
Transportation	0.086	0.078	0.087	0.091	0.111
<b>Foreign entities</b>	6.385	6.405	6.196	6.945	5.924
Exploration and Production (Uzbekistan, Central Asia)	0.043	0.223	0.393	0.360	0.297
Oil Refining and Petrochemicals (EU countries)	6.342	6.181	5.803	6.585	5.628
Share of emissions (Scope 1) accounted for by countries where the regulation of GHG emissions has been implemented (Romania, Bulgaria, Italy), %	16	15	15	17	15

**Note.**

The 2019 growth in GHG emissions of the Exploration and Production business segment was due to the growth of exploration and production drilling and the increase in production mainly in the Caspian Region and the Komi Republic, as well as the commissioning of additional power capacity at oilfields, which led to an increase in diesel fuel consumption. The increased GHG emissions at oil refining and petrochemical entities in 2017 were caused by production of the largest volume of high value-added products between 2016 and 2019.

**Specific GHG emissions, by types of activity (Scope 1 + Scope 2)**

Business segment/ business sector	2016	2017	2018	2019	2020
<b>Exploration and Production across LUKOIL Group</b>					
tonnes CO <sub>2</sub> E / thousand BOE	25.396	23.954	21.106	21.009	21.622
tonnes CO <sub>2</sub> E / GJ	4.334	4.008	3.602	3.585	3.690
<b>Oil Processing and Petrochemicals across LUKOIL Group (excluding LLC LUKOIL-KGPZ and LLC LLK-International)</b>					
tonnes CO <sub>2</sub> E / tonne of processed raw materials	0.281	0.293	0.282	0.291	0.305
<b>Power Generation (Russian entities)</b>					
tonnes CO <sub>2</sub> E / MWh of generated electrical and heat energy (excluding emissions of LLC LUKOIL-ENERGOSETI)	0.341	0.340	0.323	0.328	0.350

**Note.**

The increase in specific GHG emissions in all business sectors in 2020 was related to a decline in production due to the pandemic and the need to maintain the working capacity of production units and technological processes, as well as to rising complexity of production processes and an increase in the refinery yield at oil refining and petrochemicals entities.