AIR EMISSIONS

In 2023, emissions of sulphur oxides and nitrogen oxides, non-methane volatile organic compounds, methane, carbon monoxide, carbon dioxide, ammonia and fine particulate matter decreased compared to 2022. Emissions of sulphur oxides and carbon dioxide are 44 thousand tons and 34.5 million tons, respectively. Compared to 2022, the largest decrease was observed in emissions of sulphur oxides - 36%, and carbon dioxide - 26%, which is due to a decrease in the amount of fuels used in the energy sector.

1. Emissions of pollutants in the air

(Thousand tons)

Pollutants	2019	2020	2021	2022	2023	Reduction - 2023/2022
Sulphur oxides (SOx)	86	48	60	69	44	36%
Nitrogen oxides (NOx)	92	86	93	95	83	12%
Non-methane volatile organic compounds (NMVOC)	72	71	72	73	66	10%
Methane (CH4)	232	228	235	234	214	9%
Carbon oxide (CO)	217	231	233	196	172	12%
Carbon dioxide (CO2)	42263	36631	42433	46995	34548	26%
Dinitrogen oxide (N2O)	17	16	16	16	16	0%
Ammonia (NH3)	64	62	62	63	61	2%
Particulate matter to 2.5µm (PM2.5)	28	31	30	26	22	14%
Particulate matter to 10µm (PM10)	45	47	46	40	36	10%

The processes of combustion of fuels for energy production have a major contribution to emissions of carbon dioxide (58%) and to emissions of sulphur oxides (85%). Production processes have a predominant contribution to emissions of non-methane volatile organic compounds (50%). The main contribution to the emissions of ammonia (98%), carbon monoxide (84%), nitrous oxide (96%), methane (82%), non-methane volatile organic compounds (48%), nitrogen oxides (70%) and fine particulate matter (PM2.5 - 84%, and PM10 - 82%) comes from the group 'Other sources', which includes agriculture, transport, and household fuel combustion, and waste and wastewater treatment activities.

Figure 1. Emissions of sulphur oxides (SOx), nitrogen oxides (NOx) and particulate matter (PM10)
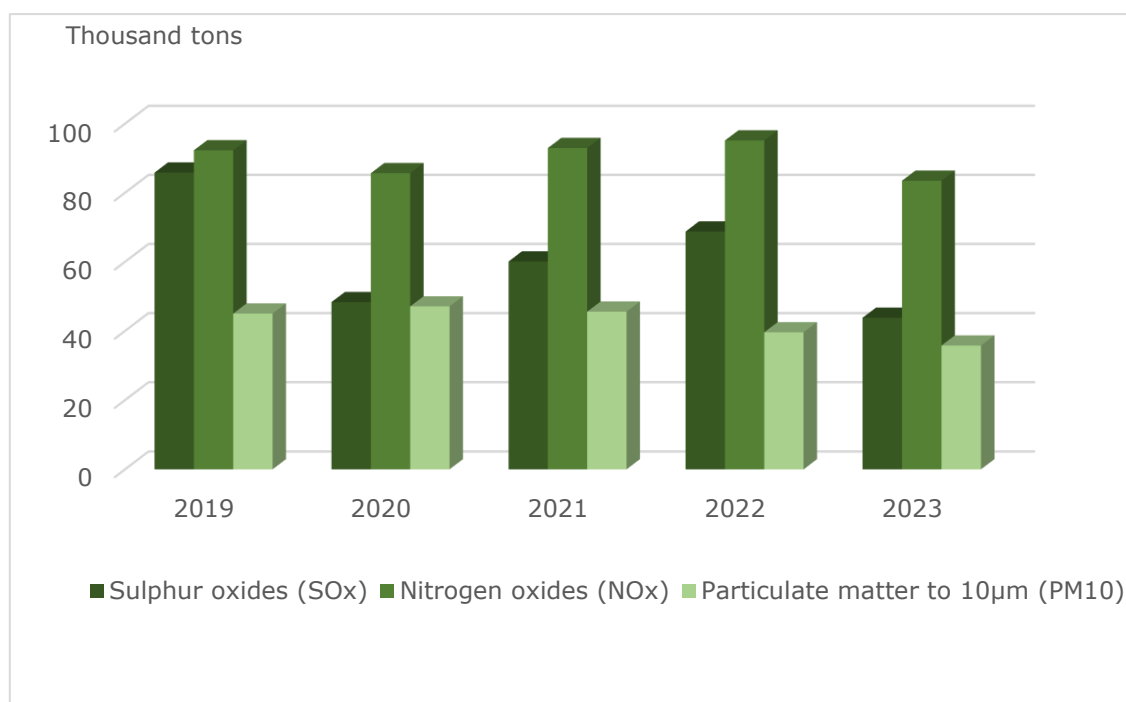
Methodological notes

Data on emissions are based on data from the statistical survey 'Air emissions', conducted by the National Statistical Institute, and data from the National Inventories of Emissions of Harmful Substances and Greenhouse Gases, prepared and reported by the Executive Environment Agency. Emissions of harmful substances are determined by a calculation method based on data from the statistical survey, based on the following indicators: fuel consumed, calorific value, quantity of produced products, raw materials used, purification facilities/measures to reduce emissions, as well as emission factors for the relevant pollutants. Data on carbon dioxide, methane, nitrous oxide emissions are taken from the National Greenhouse Gas Inventory.