

Environment in 2023

27.06.2024

↓ 12%

Decrease in water withdrawal for the needs of the national economy¹ and population

In 2023, a decrease was noticed in water withdrawal for the needs of the national economy¹ and population (by approximately 12%) and the amount of generated industrial and municipal wastewater (by approximately 13%) compared to the previous year. There was a reduction of emission of particulate pollutants from plants of significant nuisance to air quality by 21% and gaseous pollutants of more than 15%. There was a reduction of the amount of total waste generated by 4% - there was a decline of industrial waste by 5%.

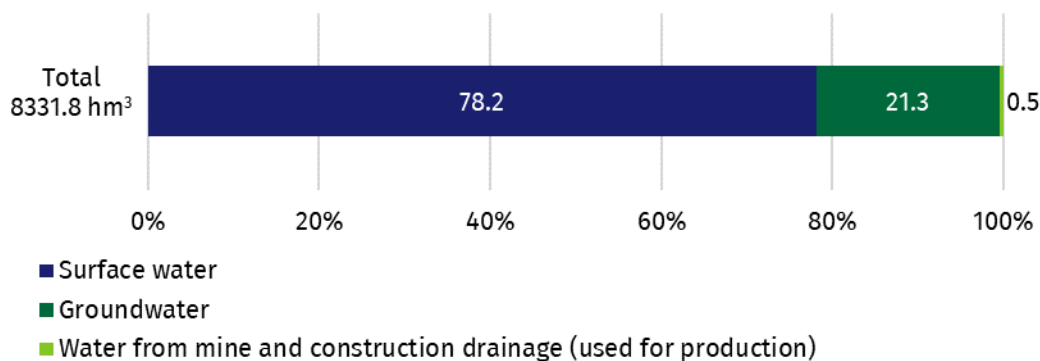
Water and wastewater

Water withdrawal and consumption

In 2023, there was decrease in water withdrawal observed, for needs of the national economy and population compared to the previous year from 9.4 km³ to 8.3 km³. The largest share of water withdrawal (approximately 65%) was for production purposes (5.4 km³, compared to 6.4 km³ in 2022). There was decrease (18%) in the amount of water withdrawal for the purposes of electric power generation, transmission and distribution compared to the previous year. Water withdrawal for the purpose of filling in and refilling fishponds and for the purpose of exploitation of water supply network did not significantly change compared to 2022. The amounts of water withdrawn were 0.8 km³ and 2.1 km³ respectively.

The main source of water supply for the national economy was surface water. In 2023, the withdrawal of surface water amounted to 6.5 km³ and it covered 78% of the needs. Surface water was mainly used for production purposes in industry. The withdrawal of groundwater was approximately 1.8 km³ and has increased compared to 2022 by approximately 1%.

Figure 1. Structure of water withdrawal for the needs of the national economy and population by source in 2023



In 2023, water consumption was approximately 7.9 km³, which was 88% of the total consumption of water recorded the previous year. As during the years before, the largest share of water consumption for the needs of the national economy and population was recorded

In 2023, water withdrawal amounted to 8.3 km³

In 2023, 7.9 km³ of water was consumed (88% of the consumption recorded during the previous year)

¹ Excluding agriculture and forestry

by industry 68% (5.4 km³). Consumption of water by the fishing industry was approximately 11% (0.8 km³) of the total amount of water consumption for the purpose of the national economy. Water consumption by the municipal sector, for the purpose of operation of the water supply network, amounted to 1.7 km³ (approximately 21%). In 2023, water consumption by households, from the water supply system, was similar to the level recorded in the previous year, and it amounted to 1.3 km³.

Wastewater

In 2023, the amount of generated industrial and municipal wastewater, that required treatment, has decreased compared to the previous year by approximately 1%, and it amounted to 2.1 km³, while the amount of untreated wastewater was 0.1 km³. The amount of wastewater treated in wastewater treatment plants, with increased biogene removal increased by 1.6 pp. compared to the previous year and amounted to 1.19 km³, which was 61% of treated wastewater, while the amount of wastewater treated with the use of mechanical treatment technology amounted to 0.33 km³ (17% of treated wastewater).

Some part of wastewater that required treatment (6%) was not subjected to the processes of treatment. In 2023, the amount of wastewater discharged without treatment was 135.8 hm³, compared to 137.9 hm³ the previous year.

In 2023, there was a decrease in the number of industrial wastewater treatment plants (from 854 in 2022, to 841 in 2023). The number of municipal wastewater treatment plants (3,249) decreased, compared to the previous year (3,260). In 2023, the share of population connected to wastewater treatment plants was 76%, while in urban areas it was approximately 95%, and in rural areas it was 48%.

Liquid waste

Due to insufficiently developed sewage infrastructure, some residents continued to use household wastewater disposal systems. In 2023, the number of septic tanks was 2.1 million, similar to the previous year. The amount of liquid waste, collected and delivered to wastewater treatment plants or dump stations, was 47.3 hm³ compared to 38.0 hm³ in 2022.

Pollution and protection of air

In 2023, the amount of emission of particulates, from plants of significant nuisance to air quality, i.e. plants with the highest level of emission of pollutants into the air in the country (1,820 plants) amounted to approximately 16 thousand tonnes and it declined by 21% compared to the previous year. The main source of emission was industrial processing (56%) and also the entities that produce and supply electricity, gas, steam and hot water (33%).

Table 1. Emission and air pollutant reduction from plants of a significant nuisance to air quality

Specification	2022	2023
Number of plants	1,844	1,820
Emission of pollution in thousand tonnes:		
particulate pollutants	20.2	16.0
of which from combustion of fuels	10.8	7.8
gaseous pollutants	203,623.4	172,771.3
of which carbon dioxide	202,572.9	171,853.8
sulphur dioxide	162.7	129.0
nitrogen oxides (expressed as NO ₂)	166.7	148.7
Level of reduction of generated pollution in %		
particulate pollutants	99.9	99.9
gases (without carbon dioxide)	75.7	74.1

In 2023, the amount of wastewater discharged without treatment was 135.8 hm³

In 2023, the number of septic tanks was 2.1 million

In 2023, there was a decline recorded in the amount of emission of particulate pollutants by 21%, compared to the previous year

In 2023, there was a decline in the amount of emitted gaseous pollutants of more than 15%, compared to the previous year

In 2023, the gaseous pollutants emission from plants of significant nuisance to air quality was at a level of 173 million tonnes and it declined more than 15% compared to 2022. Over 99% of the above-mentioned emissions were carbon dioxide and 0.1% each: sulphur dioxide, carbon oxide and nitrogen oxides. The predominant sources of industrial emission of gaseous pollutants were the entities that operated in the field of generation and supply of electricity, gas, steam and hot water (almost 68%) and industrial processing plants (30%).

In 2023, with the use of air pollution control devices, 14.4million tonnes (99.9%) of particulate and 2.6 million tonnes (74.1%) of gases (excluding CO₂) emitted by plants of significant nuisance to air quality, were retained. In 2023, the amount of retained or neutralised pollution, according to particular types of gaseous pollutants were: 94.0% of sulfur dioxide, 74.6% of hydrocarbons, 48.1% of nitrogen oxides, 38.1% of carbon monoxide, 40.0% of other pollutants (mainly ammonia, carbon disulphide, fluorine, hydrogen sulphide, organochlorine compounds).

Nature and landscape protection

Poland belongs to the group of European countries of high biodiversity, both in terms of the number of species and environmental values. At the end of 2023, the area of the sites under legal protection (including that parts of Natura 2000 sites located within the boundaries of areas under legal protection) was over 10.1 million ha, which was 32.2% of the total area of the country.

The indicator of areas of the sites under legal protection per capita was 2,685m², compared to 2,678 m² in 2022.

In 2023, the area of special natural value sites under legal protection was 32.2% of the total area of the country

Table 2. The area of special natural value under legal protection in 2023

Specification	The number of objects	Total area			
		in thousand ha	percentage	% of the total area of the country	per capita in m ²
TOTAL	10,783	10,105.5	100.0	32.2	2,685.0
National parks	23	315.2	3.1	1.0	83.8
Nature reserves	1,523	173.0	1.7	0.6	46.0
Landscape parks ^a	126	2,525.0	25.0	8.0	670.9
Protected landscape area ^a	389	6,917.3	68.5	22.0	1,837.9
Ecological areas	8,217	56.7	0.6	0.2	15.1
Documentation sites	186	0.9	0.0	0.0	0.2
Nature and landscape complexes	319	117.3	1.2	0.4	31.2

^a With the exception of nature reserves and other forms of nature protection located within the boundaries of landscape parks and protected landscape areas.

At the end of 2023, 34,869 natural monuments were registered, which was a decline by 108 objects compared to 2022.

Apart from forms of nature protection, including biodiversity, the creation of green areas are also a way of protecting the natural environment and its components. In 2023, the area of publicly accessible strolling-recreational parks amounted to 25.4 thousand ha, and the area of lawns 12.9 thousand ha, which is an increase in the area of strolling-recreational parks by 0.7 thousand ha and the area of lawns by 0.2 thousand ha compared to 2022.

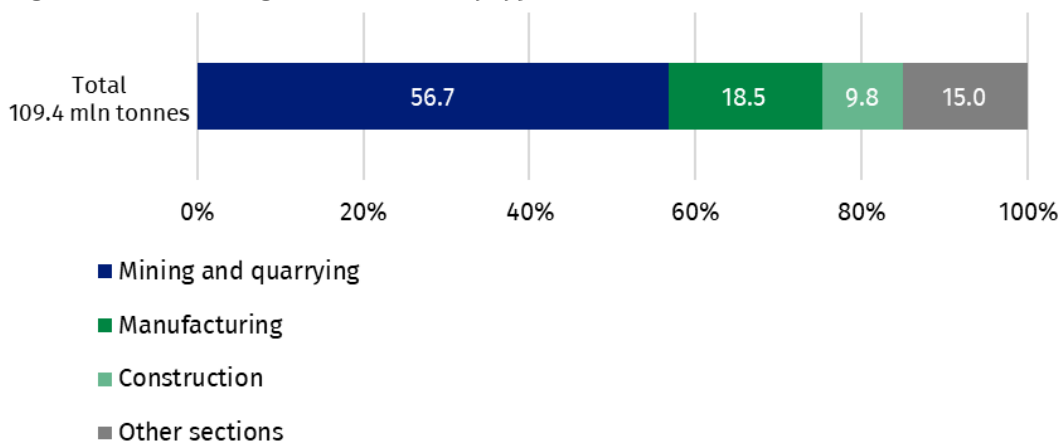
Waste

Industrial waste

In 2023, 109.4 million tonnes of industrial waste was generated (a decline of 4.9% compared to the previous year).

The main sources of waste were: mining and quarrying (62.0 million tonnes), manufacturing (20.3 million tonnes), construction (10.7 million tonnes).

Figure 2. Structure of generated waste by types of activities in 2023



The largest share in the amount of generated waste were wastes resulting from exploration, mining, quarrying and physical and chemical treatment of minerals (58.9%), and waste from thermal processes (13.6%).

The predominant ways of treating waste that was generated in 2023 were recovery (48.8%) and landfilling (41.5%).

At the end of 2023, the amount of landfilled waste (accumulated) at the facilities of plants was 1,842 million tonnes. The non-reclaimed landfill area (excluding municipal waste) was 7.9 thousand ha, out of which landfills, mine waste treatment facilities, including heaps accounted for 53.6%, and tailings ponds accounted for 46.4%. During the year, 47.6 ha of the waste landfill area was reclaimed.

Municipal waste

In 2023, 13.4 million tonnes of municipal waste were collected (an increase of 0.2% compared to 2022). There was 356.7 kg of collected municipal waste per capita recorded, on average, an increase of 1.9 kg compared to the previous year.

Table 3. Generated municipal waste

Specification	2022	2023	
	in thousand tonnes		2022 = 100
Total	13,420.3	13,447.9	100.2
Received or collected separately	5,361.0	5,468.8	102.0
Mixed	8,059.3	7,979.1	99.0

11.6 million tonnes of waste were collected from households, which was 86.3% of the total amount of generated municipal waste.

In 2023, there were 2,330 municipal waste separate collection points in operation. Municipal waste collection service was provided by 1,323 entities.

A decline of 4.9% was recorded in the amount of generated industrial waste, compared to the previous year

The share of recovered industrial waste was 48.8%

There was an increase recorded of 0.2%, in the amount of generated municipal waste, compared to the previous year

In 2023, collected municipal waste was designated for the following processes:

- recovery – 6,391.9 thousand tonnes (47.5%), including:
 - recycling – 2,120.2 thousand tonnes (15.8%),
 - biological treatment processes (composting or digestion) – 1,586.0 thousand tonnes (11.8%),
 - incineration with energy recovery – 2,685.6 thousand tonnes (20.0%),
- disposal – 4,159.4 thousand tonnes (30.9%), including:
 - incineration without energy recovery – 92.1 thousand tonnes (0.7%),
 - landfilling – 4,067.3 thousand tonnes (30.2%).

At the end of 2023, there were 254 landfills in operation that received municipal waste and they covered a total area of 1,632.7 ha. 93% of those landfills were equipped with degassing facilities, as a result of which approximately 137,714 thousand MJ of thermal energy and approximately 115,352 thousand kWh of electricity was recovered. In 2023, 13 landfills, of a total area of approximately 34.2 ha, were closed down. In 2023, 9,804 uncontrolled landfill sites were closed down, out of which a total of approximately 63.7 thousand tonnes of municipal waste was collected. At the end of 2023, 2,154 uncontrolled landfill sites were reported.

The share of municipal waste that was designated for recovery was 47.5%

In 2023, 9,804 uncontrolled landfill sites were closed down

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Related information

[Environment 2023](#)

Data available in databases

[Local Data Bank](#)

Terms used in official statistics

[Environment protection](#)

[Consumption of water](#)

[Wastewater](#)

[Liquid waste](#)

[Air pollution protection](#)

[Protection of nature](#)

[Waste](#)