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Highlights

" Among the EU countries, Croatia recorded the highest renewable freshwater resources (with a long-term average of 30 700 m³ per inhabitant), followed by Finland (19 800 m³), Latvia (19 500 m³) and Sweden (18 600 m³). "

" Over the last decades, an increasing share of the population is being connected to wastewater treatment. "

Water is essential for life, it is an indispensable resource for the economy, and also plays a fundamental role in the climate regulation cycle. The management and protection of water resources, of fresh and salt water ecosystems, and of the water we drink and bathe in is therefore one of the cornerstones of environmental protection. This is why the EU's water policy over the past 30 years is focused on the protection of water resources, ensuring that good quality water, in sufficient quantity, is available for all legitimate uses. The state of play is described by the [fifth implementation report](#) (2019) of the [Water Framework Directive](#) (2000), the central piece of environmental legislation concerning European waters. Recent insight about the quality of existing water related EU legislation and perspectives for its future development is offered by the [Fitness check of the Water Framework Directive and related legislation](#) (2019). This article presents water statistics in the [European Union \(EU\)](#) . It is based on data on [freshwater resources](#) , [water abstraction](#) , [water use](#) and [wastewater](#) treatment and disposal.

Water as a resource

Water resources refer to the freshwater available for use in a territory and include [surface waters](#) (lakes, rivers and streams) and [groundwater](#) . Renewable water resources are calculated as the sum of [internal flow](#) (which is [precipitation](#) minus actual [evapotranspiration](#)) and [external inflow](#) . Freshwater availability in a country is primarily determined by climate conditions and transboundary water flows (in other words, external inflows), while for total amounts, the size of the country matters. Freshwater resources per inhabitant are considered an important indicator for measuring the sustainability of water resources. For EU Member States, the average water resources are about 4-5 thousand m³ per inhabitant. In water-rich countries an inhabitant's share can be as high as around 30 thousand m³ (Croatia) or close to 70 thousand m³ as in Norway. According to the World water development report of the United Nations, a country experiences 'water stress' when its annual water resources are below 1 700 m³ per inhabitant; among the EU Member States, this is the case in Poland, Czechia, Cyprus and Malta.

Renewable freshwater resources - long-term annual average

(million m³)

	A. Precipitation	B. Evapo-transpiration	C. Internal Flow C=A-B	D. External Inflow	E. Renewable freshwater resources E=C+D	F. Renewable freshwater resources per 1000 inhabitants
Belgium	27 264	15 745	11 288	10 563	25 011	2.1
Bulgaria	73 344	57 460	15 884	83 957	99 841	15.0
Czechia	53 454	39 082	14 372	829	15 201	1.4
Denmark	38 485	22 145	16 340	0	16 340	2.8
Germany	309 000	205 000	104 000	69 000	173 000	2.1
Estonia	29 018	:	12 347	:	12 347	9.2
Ireland	89 491	38 182	51 308	3 526	54 834	10.6
Greece	115 000	55 000	60 000	12 000	72 000	6.9
Spain	322 754	222 358	100 396	0	100 396	2.1
France	512 864	312 003	200 860	11 000	206 236	3.0
Croatia	63 805	39 275	24 530	93 783	118 313	30.7
Italy	285 270	151 815	133 455	:	:	:
Cyprus	2 869	2 496	374	0	374	0.4
Latvia	43 220	23 573	19 647	16 992	36 639	19.5
Lithuania	44 731	30 713	14 018	8 522	22 539	8.0
Luxembourg	2 030	1 125	905	739	1 644	2.5
Hungary	56 172	50 592	5 580	91 500	:	:
Malta	172	89	83	0	83	0.2
Netherlands	32 017	22 311	9 706	78 355	88 061	5.0
Austria	99 800	43 100	56 700	29 300	:	:
Poland	201 116	150 796	50 319	7 504	57 823	1.6
Portugal	82 164	43 571	38 593	35 000	73 593	7.2
Romania	158 884	119 599	39 285	284	39 569	2.1
Slovenia	29 448	13 026	16 422	15 074	31 496	14.9
Slovakia	39 612	25 531	14 081	66 086	80 192	14.8
Finland	222 000	115 000	107 000	3 200	110 000	19.8
Sweden	349 790	169 512	170 330	14 678	194 750	18.6
Norway	554 149	188 815	365 334	6 532	371 866	68.1
Switzerland	61 207	21 382	39 825	12 560	52 385	6.0
Bosnia and Herzegovina	55 863	25 940	29 922	2 000	31 922	:
North Macedonia	19 533	:	:	1 014	:	:
Serbia	57 578	44 093	13 485	153 084	166 569	24.8
Türkiye	449 170	275 700	173 470	6 900	180 370	2.1
Kosovo (*)	763	478	285	11	296	:
United Kingdom	287 607	127 290	161 369	6 454	172 861	2.9

(:) not available

The minimum period taken into account for the calculation of long term averages is 30 years.

(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Eurostat (online data codes: env_wat_ltaa and demo_gind)

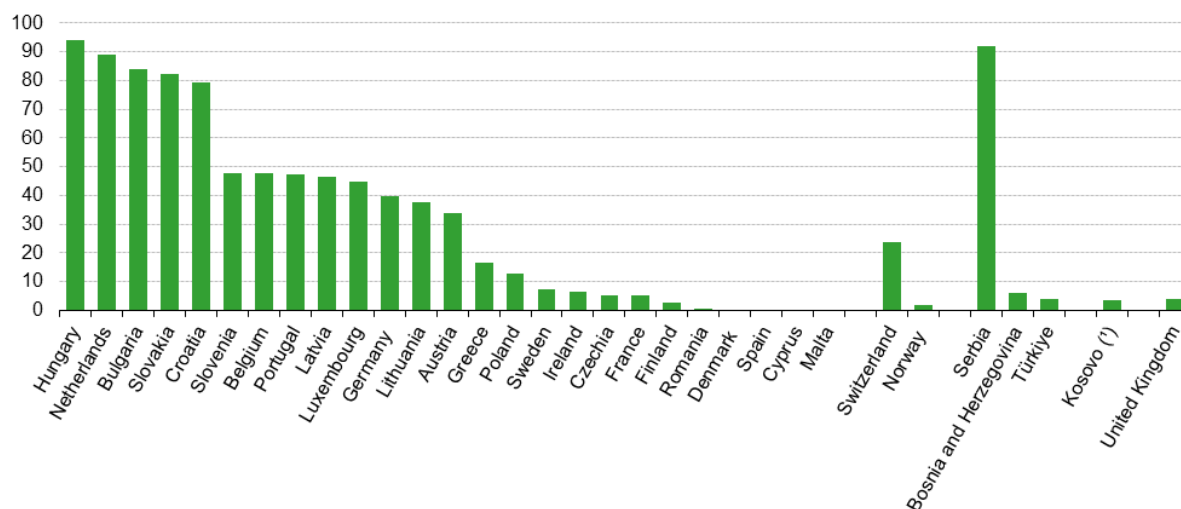
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Table 1: Renewable freshwater resources - long-term annual average (million m³) Source: Eurostat (env_wat_ltaa) (demo_gind)

A number of countries receive a significant proportion of their renewable freshwater resources as external inflow (see Figure 1). Among the EU Member States, there are five countries with ca. 80% and more dependency on transboundary water resources.

Share of external inflow from neighbouring territories in renewable freshwater resources - long-term average

(%)



Note: The minimum period taken into account for the calculation of long term averages is 30 years.

(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence

Source: Eurostat (online data code: env_wat_itaa)

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Figure 1: Share of external inflow from neighbouring territories in renewable freshwater resources - long-term average (%) Source: Eurostat (env_wat_itaa)

Water uses

The overall use of water resources can be considered sustainable in the long-term in most of Europe. However, specific regions may face problems associated with water scarcity; this is the case particularly in parts of southern Europe, where it is likely that efficiency gains in agricultural water use (as well as other uses) will need to be achieved in order to prevent seasonal water shortages. Regions associated with low rainfall, high population density, or intensive agricultural or industrial activity may also face sustainability issues in the coming years, which could be exacerbated by climate change impacts on water availability and water management practices.

Water is provided either by public water supply (public or private systems with public access) or is self-supplied (for example, private drills). While the share of the public water supply sector in total water abstraction depends on the economic structure of a given country and can be relatively small, it is nevertheless often the focus of public interest, as it comprises the water volumes that are directly used by the population.

Table 2 presents households' water use from public supply. It varies across European countries - the median is around 40-50 cubic metres per inhabitant and has been slightly decreasing over the last decades.

Household water use from public water supply, 1990-2022

(m³ per inhabitant)

	1990	2000	2010	2020	2021	2022
Belgium ⁽²⁾	:	32	35	32	32	:
Bulgaria	48	36	36	37	37	:
Czechia	53	34	31	32	33	31
Denmark ⁽²⁾	66	47	42	43	42	40
Germany ⁽²⁾	52	46	44	46	:	:
Estonia	:	:	:	:	:	:
Ireland	:	:	:	:	:	:
Greece ⁽²⁾	:	32	:	107	109	110
Spain	:	61	59	47	:	:
France	:	:	:	:	:	:
Croatia	:	41	44	42	43	45
Italy ⁽²⁾	78	74	:	:	:	:
Cyprus	:	69	96	98	105	:
Latvia	:	37	38	38	20	18
Lithuania	:	:	19	27	28	27
Luxembourg	:	:	:	:	:	:
Hungary	56	38	34	37	38	39
Malta	:	37	41	43	42	41
Netherlands	47	51	47	49	46	:
Austria	46	44	46	43	44	44
Poland	50	36	31	34	35	35
Portugal ⁽²⁾	38	67	59	:	:	:
Romania	52	49	:	31	30	32
Slovenia	43	44	41	40	40	41
Slovakia	:	:	:	:	:	:
Finland ⁽²⁾	85	78	:	:	:	:
Sweden	63	59	52	48	:	:
Iceland ⁽²⁾	:	108	:	:	:	:
Norway	71	66	73	66	66	65
Switzerland	95	92	72	61	59	59
Bosnia and Herzegovina	:	:	31	:	:	:
Montenegro	:	:	:	55	55	55
North Macedonia ⁽²⁾	34	36	:	:	:	:
Albania	:	:	:	49	40	40
Serbia	:	48	45	47	48	49
Türkiye	:	:	33	44	:	44
Kosovo ⁽¹⁾ ⁽²⁾	:	:	21	27	:	:
United Kingdom ⁽²⁾	:	:	46	:	:	:

(:) not available

⁽¹⁾ This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

⁽²⁾ Partly neighbouring reference years if not available

Source: Eurostat (online data codes: env_wat_cat and demo_gind)



Table 2: Household water use from public water supply, 1990-2022 (m³ per inhabitant) Source: Eurostat (env_wat_Itaa) (demo_gind)

Wastewater treatment and disposal

Overall, there is a development towards a higher proportion of the population being connected to wastewater treatment. Table 3 presents information on the proportion of the population connected to at least secondary wastewater treatment plants, which typically is an acceptable level of environmental protection unless the receiving

waters are in a sensitive area. This share has been generally increasing over the past decades and was above 80% in half of the EU Member States for which recent data are available (mixed reference years). The share of the population connected to at least secondary wastewater treatment plant even rose to 95% and above in six Member States (Denmark, Germany, Greece, the Netherlands, Austria and Sweden), as well as Switzerland and the United Kingdom. At the other end of the range, less than one in two households were connected to at least secondary urban wastewater treatment plants only in Malta and Croatia, while the same was also true in Iceland, Albania, Serbia, and Bosnia and Herzegovina.

Share of the population connected to at least secondary urban wastewater treatment, 2000-2022
(%)

	2000	2005	2010	2015	2020	2021	2022
European Union	68	73	76	79	81	81	81
Belgium	41	54	75	82	84	84	84
Bulgaria	36	38	45	61	65	65	.
Czechia	.	73	77	81	83	85	85
Denmark	93	.	93	97	98	98	98
Germany	.	97	96	96	.	.	.
Estonia	69	78	79	83	83	82	82
Ireland	.	.	65	61	64	64	65
Greece	.	.	87	93	95	95	95
Spain	80	88	93	86	87	87	.
France	.	.	78	80	80	80	80
Croatia	.	.	.	37	37	31	.
Italy	.	54	58	60	.	.	.
Cyprus	14	30	.	.	83	.	.
Latvia	53	63	59	73	77	76	77
Lithuania	.	47	64	72	77	77	76
Luxembourg	.	.	.	.	.	.	.
Hungary	30	42	70	76	81	82	82
Malta	11	13	7	0	7	7	7
Netherlands	98	99	99	99	100	100	100
Austria	85	90	94	95	99	99	99
Poland	50	58	65	73	75	75	76
Portugal	.	43	.	.	.	.	.
Romania	.	17	23	40	52	53	54
Slovenia	12	32	52	57	69	68	68
Slovakia	.	.	.	.	69	70	71
Finland	80	82	83	84	85	85	85
Sweden	94	94	94	95	96	96	.
Iceland	0	2	1	.	.	.	.
Norway	.	.	48	51	67	68	71
Switzerland	96	97	98	.	.	.	.
Bosnia and Herzegovina	9	10	11	12	.	.	.
Albania	.	.	.	8	31	22	23
Serbia	5	6	9	11	14	15	15
Türkiye	18	29	38	55	61	61	61
Kosovo (*)	.	.	.	.	.	.	.
United Kingdom	91	99	100	.	.	.	.

(.) not available

(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Eurostat (online data code: sdg_06_20)

Table 3: Share of the population connected to at least secondary urban wastewater treatment, 2000-2022
(%) (%) Source: Eurostat (sdg_06_20)

Source data for tables and graphs

- [Water statistics: tables and figures](#)

Data sources

Water statistics are collected through the joint OECD/Eurostat questionnaire on inland waters, which is an established data collection yielding long time series. However, data collection is on a voluntary basis, which leads to considerable data gaps. The joint questionnaire on inland waters includes the following characteristics:

- freshwater resources in groundwater and surface water — these can be replenished by precipitation and external inflow (water flowing into a country from other territories);
- water abstraction — a major pressure on resources, although a large part of the water abstracted for domestic, industrial (including energy production) or agricultural use may be returned to the environment and its water bodies (although often as wastewater with impaired quality);
- water use — analysed by supply category and by industrial activities;
- the share of the population connected to wastewater treatment plants — which gives an overview of the development status of the infrastructure, in terms of quantity and quality, that is available for the protection of the environment from pollution by wastewater;
- sewage sludge production and disposal — an inevitable product of wastewater treatment processes, its impact on the environment depends on the methods chosen for its processing and disposal;
- generation and discharge of wastewater — pollutants present in wastewater have different source profiles and, similarly, the efficiency of treatment of any pollutant varies according to the method applied¹.

In general, Eurostat collects national data. Some of the characteristics above are also collected at the level of river basin districts by means of a regional questionnaire.

A large amount of data and other information on water is accessible via [WISE](#), the water information system for Europe, which is hosted by the [European Environment Agency \(EEA\)](#) in Copenhagen.

Context

Water policies: floods, droughts and other challenges

The central element of European water policy is a Directive for ' [Community action in the field of water policy](#) ' (2000/60/EC) — often referred to as the Water Framework Directive (WFD) — which aims to achieve a good ecological and chemical status of European waters. Together with its daughter legislation ([Directive 0118/2006](#) and [Directive 0060/2007](#)), the WFD focused on water management at the level of (in most cases transboundary) hydrological catchments (river basins). An important step in the course of its implementation involved establishing river basin management plans. The latest state of play is summarised in the [Commission's implementation report of February 2019](#) (COM(2019) 95 final).

In a Communication ' [Addressing the challenge of water scarcity and droughts](#) ' (COM(2007) 414 final), the European Commission identified an initial set of policy options to be taken regionally, nationally and across the EU to address water scarcity within the EU. This set of proposed policies, which was reviewed and further developed by 2012, aimed to move the EU towards a water-efficient and water-saving economy, as both the quality and availability of water are considered as major concern in many regions.

In a [Fitness check of the EU Water Framework Directive and related legislation \(2019\)](#), the Commission identified strengths and weaknesses of the existing legislation and explored the need for possible amendments.

Wastewater

In an effort to reduce pollutants discharged into the environment with wastewater, the EU has implemented legislation on [urban wastewater treatment](#) (Directive 1991/271/EC). The pollution of rivers, lakes and groundwater and water quality is affected by human activities such as industrial production, household discharges, or arable farming; a report on [the protection of waters against pollution by nitrates from agricultural sources](#) (COM(2007) 120 final) was released in March 2007.

Another aspect of water quality relates to coastal bathing waters. The European Commission and the EEA present an [annual bathing water report](#). The latest of these always covers information of the preceding year and shows that more than 95% of the EU's bathing waters met the minimum water quality standards.

¹Discharges from cooling water are not regarded as wastewater in water statistics.

Blueprint to safeguard Europe's water resources

These policy perspectives up to 2050 were developed in the ' [Blueprint to safeguard Europe's water resources](#) ' (COM/2012/0673) which integrates the results of a policy review concerning: water scarcity and droughts; an analysis of the implementation of river basin management under the WFD; a review of the vulnerability of environmental resources (such as water, biodiversity and soil) to climate change impacts and man-made pressures; and a review of the whole of the EU's water policy framework in the light of the European Commission's 'better regulation' approach. The blueprint is closely related to the [Resource efficiency roadmap](#) (COM(2011) 571). However, the blueprint covers a longer time span, through to 2050, and is expected to drive EU water policy over the long term. As part of the blueprint there are a number of policy reviews assessing implementation.

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http://ec.europa.eu/eurostat/statistics-explained/index.php/Water_statistics

Notes

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- [Energy, transport and environment statistics, 2020 edition](#)

Selected datasets

- [Environment \(t_env\)](#)
- [Water \(t_env_wat\)](#)

Methodology

- [Water statistics on national level](#) (ESMS metadata file — env_nwat_esms)

External links

- [European Commission - Environment - Water](#)
- [European Environment Agency - Water themes and data](#)
- [WISE \(Water Information System for Europe\)](#)
- [World Health Organisation - Water](#)
- [European Federation of National Associations of Water Services](#)
- [AQUASTAT database on water resources and uses \(FAO of UN\)](#)

Legislation

- The Water Framework Directive [Directive 0060/2000](#) , central piece of European water-related legislation
- [Summaries of EU legislation: Good-quality water in Europe \(EU Water Directive\)](#)

- [Report on the implementation of the Water Framework Directive \(2000/60/EC\) and the Floods Directive \(2007/60/EC\) - Second River Basin Management Plans, First Flood Risk Management Plans COM\(2019\) 95 final](#)

- [Fitness check of the Water Framework Directive and related legislation](#)
- [Communication 'A blueprint to safeguard Europe's water resources' \(COM\(2012\) 673 final\)](#)
- [Summaries of EU legislation: EU water resources protection plan](#)

- [Communication 'Addressing the challenge of water scarcity and droughts in the European Union' \(COM\(2007\) 414 final\)](#)
- [Summaries of EU legislation: Addressing water scarcity and droughts in the EU](#)

- [Directive 2007/60/EC](#) of 23 October 2007 on the assessment and management of flood risks
- [Summaries of EU legislation: Flood-risk management in the EU](#)

- [Directive 2006/118/EC](#) of 12 December 2006 on the protection of groundwater against pollution and deterioration
- [Summaries of EU legislation: Protection of groundwater against pollution](#)

- [Directive 91/271/EEC](#) of 1 May 1991 concerning urban wastewater treatment
- [Summaries of EU legislation: Urban waste water treatment](#)