



The Water Reuse Regulation, its main requirements and situation in the Danube Region

This document was supported as part of DRP-PAC-PA4, an Interreg Danube Region Programme project co-funded by the European Union and partner states and institutions.



Good quality water in sufficient quantity is vital for the sustainable growth of European society and economy and for the protection of the environment. However, freshwater resources in EU countries are increasingly coming under pressure, leading to water stress and poorer water quality. Climate change, with its unpredictable weather patterns and more frequent and severe droughts are contributing significantly to lower water availability.

Wastewater is an effective alternative water supply. With several EU countries increasingly suffering from droughts, reusing water from urban waste water treatment plants can help address water scarcity. It can ensure a safe and predictable source of water, whilst lowering the pressure on water bodies and enhancing the EU's ability to adapt to climate change. Reusing water after appropriate treatment extends its life cycle, thereby preserving water resources.

The Regulation on minimum requirements for water reuse for agricultural irrigation (the Water Reuse Regulation (Regulation (EU) 2020/741)) aims to encourage and facilitate safe reuse of treated wastewater in agricultural irrigation in the EU.

The established common quality standards shall facilitate the uptake of water reuse while ensuring the safety of human health and the environment and promoting circular economy.



DID YOU KNOW?

- / Early evidence of agricultural irrigation with wastewater can be found in Crete and Greece dating as far back as the early Bronze Age (3000 BC)
- / By 2030 water stress and scarcity will probably affect half of Europe's river basins 38% of the EU population was affected by water scarcity in 2019
- / More than 40,000 million m³ of wastewater is treated in the EU every year but only the 2.4% is further treated to be reused
- / Water reuse could grow from the 1,1 billion m³ per year of 2015 up to 6 billion m³/year in 2025, thanks to the Water Reuse Regulation



Main requirements of Regulation (EU) 2020/741

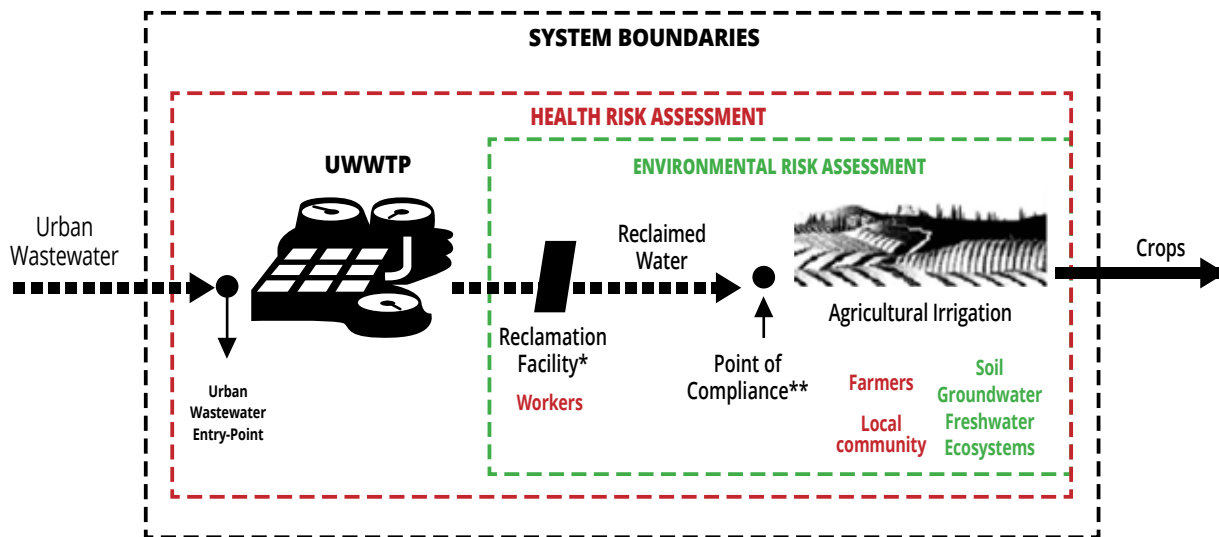
- **Harmonised minimum water quality** and **minimum monitoring requirements** for the safe reuse of treated urban wastewaters in agricultural irrigation
- **Risk management** provisions to assess and address potential health and environmental risks, conditions, requirements of reclamation facility operator; hazards and risks as well as measures to be taken.
- The competent authority needs to ensure that a **water reuse risk management plan** is established.
- In order to ensure that the use of reclaimed water is safe, production and supply of reclaimed water for agricultural irrigation should be **permitted** by the competent authorities.
- The competent authorities **check compliance** with the permit and with the water reuse management plan by on-the-site checks, monitoring data or other means.
- **Transboundary cooperation** must be ensured and Member States have to designate a **contact point**.
- **General awareness-raising** campaigns should be organised and transparent **information** should be provided **to the public** on the quality and quantity of the reclaimed water, on projects and permits and compliance checks.

Minimum requirements for water quality

Reclaimed water quality requirements for agricultural irrigations

Reclaimed water quality class	Indicative technology target	Quality requirements				
		E. coli (number/100 ml)	BOD ₅ (mg/l)	TSS (mg/l)	Turbidity (NTU)	Other
A	Secondary treatment, filtration and disinfection	≤ 10	≤ 10	≤ 10	≤ 5	Legionella spp.: < 1 000 cfu/l where there is a risk of aerosolisation Intestinal nematodes (helminth eggs): ≤ 1 egg/l for irrigation of pastures or forage
B	Secondary treatment and disinfection	≤ 100	In accordance with Directive 91/271/EEC (Annex I, Table 1)	In accordance with Directive 91/271/EEC (Annex I, Table 1)	—	
C	Secondary treatment and disinfection	≤ 1 000			—	
D	Secondary treatment and disinfection	≤ 10 000			—	

The Commission Notice '**Guidelines to support the application of Regulation 2020/741 on minimum requirements for water reuse**' (2022/C 298/01) help the Member States and stakeholders apply the rules on the safe reuse of treated urban wastewater for agricultural irrigation, it provides guidance on the general and administrative obligations and technical aspects set out by the Regulation.

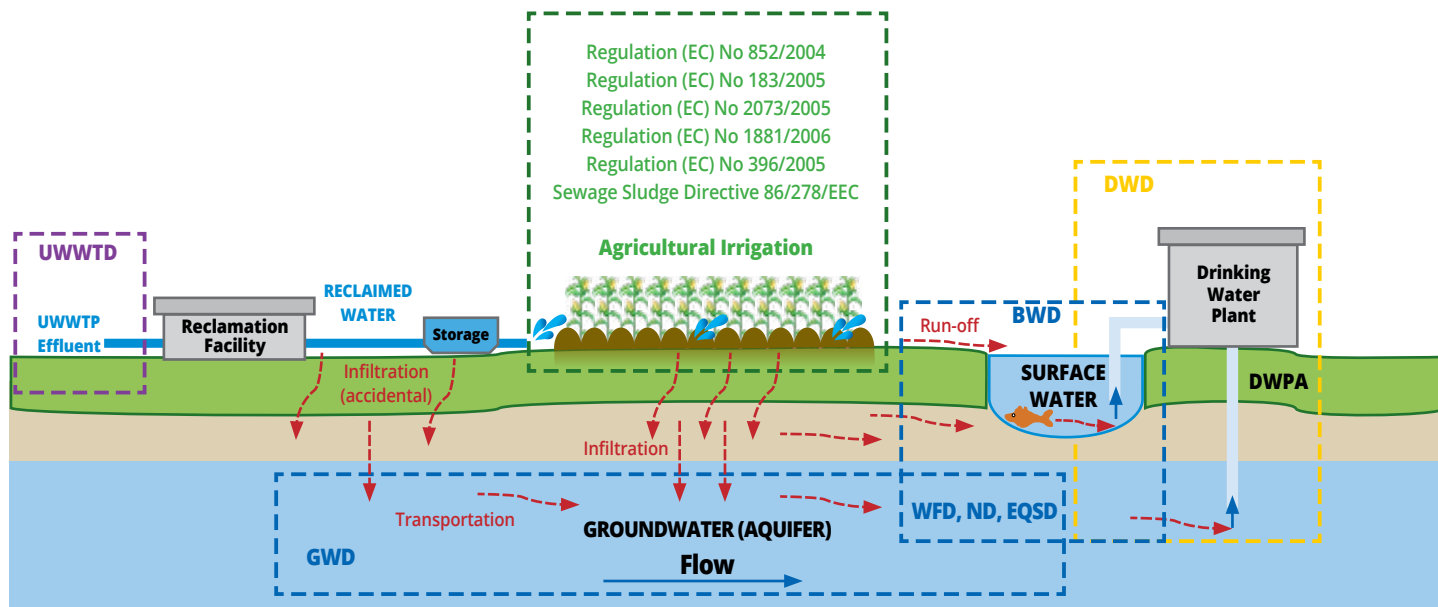


**Reclamation Facility:* it can be the urban waste water treatment plant or other facility that further treats urban waste water that is fit for a use specified in Section 1 of Annex I of the 741/2020 Regulation.

***Point of Compliance:* the point where a reclamation facility operator delivers reclaimed water to the next actor in the chain. In this image the reclaimed water is delivered directly to the end-users, but in other situations it may be delivered to a distribution operator or a storage operator.

Source: Commission Notice '**Guidelines to support the application of Regulation 2020/741 on minimum requirements for water reuse**' (2022/C 298/01))

Example of (i) how to identify applicable directives and regulations in a water reuse system, based on potential pathways taken by reclaimed water to the surrounding environments (surface water and groundwater) and (ii) regulations and directives that could apply to agricultural irrigation, depending on specific agricultural practices



UWWTPD: Urban Wastewater Treatment Directive; DWD: Drinking Water Directive (if surface or groundwater are classified drinking water protected area (DWPA)s); BWD: Bathing Water Directive (if surface water is used for bathing activities); GWD: Groundwater Directive; WFD: Water Framework Directive; EQSD: Environmental Quality Standard Directive; ND: Nitrate Directive (if water reuse scheme falls into Nitrate Vulnerable Zone (NVZ))

Source: Commission Notice 'Guidelines to support the application of Regulation 2020/741 on minimum requirements for water reuse' (2022/C 298/01)

Potential risks of water reuse in the Danube Region

- Limited awareness of potential benefits among stakeholders and the general public.
- Lack of a supportive and coherent framework for water reuse.
- Low experience with reusing water.
- Poorly developed business models for water reuse schemes.
- Reuse of waste water for agricultural irrigation is a market-driven action, based on the demands and needs of the agricultural sector, while the cost of waste water reuse systems is significant

Opportunities of water reuse in the Danube Region

- Water reuse for agricultural irrigation can be one of the measures to deal with water scarcity when other measures (e.g. adapting the crop selection, reducing water losses, improving water use efficiency) are not sufficient to reduce the water demand.
- Reuse of properly treated waste water is considered to have a lower environmental impact than other alternative water supply methods, such as water transfers or desalination.

- The Water Reuse Regulation will probably increase the trust of consumers and farmers in this circular approach to the use of water.
- Farmers and consumers can be confident in the quality and safety of agricultural product irrigated with reclaimed water.
- Water reuse can ensure that farmers have access to a more predictable supply of clean water, as well as improve resilience to climate change and mitigate its impacts.
- Reusing water can increase investment in innovative treatment technologies and competitiveness on the market.
- With water reuse for agricultural irrigation nutrients can be recovered from the reclaimed water and applying them to crops, by means of fertigation techniques. Thus, water reuse could potentially reduce the need for supplemental applications of mineral fertiliser.



Useful links

The Water Reuse Regulation (EU) 2020/741

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0741&from=EN>

The Commission Guidelines 2022/C 298/01

https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ:C:2022:298:TOC&uri=uriserv:OJ.C_2022.298.01.0001.01.ENG

Water reuse EU policy webpages

<http://ec.europa.eu/environment/water/reuse.htm>

https://environment.ec.europa.eu/topics/water/water-reuse_en

<https://water.europa.eu/freshwater/europe-freshwater/water-reuse>

Water Reuse EU Working Group

https://circabc.europa.eu/ui/group/9ab5926d-bed4-4322-9aa7-9964bbe8312d/library/657861df-abc2-4d8a-bb4a-227e12c-72dad?p=1&n=10&sort=modified_DESC

