

Opinion of the European Economic and Social Committee on the proposal for a Directive of the European Parliament and of the Council concerning urban wastewater treatment

(COM(2022) 541 final — 2022/0345 (COD))

(2023/C 146/06)

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Referral	European Parliament, 19.1.2023 Council, 24.1.2023
Legal basis	Articles 192(1) and 304 of the Treaty on the Functioning of the European Union
Section responsible	Agriculture, Rural Development and the Environment
Adopted in section	3.2.2023
Adopted at plenary	22.2.2023
Plenary session No	576
Outcome of vote (for/against/abstentions)	198/1/4

1. Conclusions and recommendations

1.1. The European Economic and Social Committee (EESC) supports the Commission's vision to bring the EU rules for urban wastewater up to date and ready for the next two decades, by addressing not only wastewater treatment, but also energy and circular economy aspects, as well to improve governance.

1.2. The EESC recognises clean water as a strategic resource for ensuring the functioning of our society and a resilient EU economy, as well as for environmental and human health, and thus considers that it needs to be treated with corresponding care. Some 60 % of EU river basin districts are cross-border and require transboundary cooperation. The recent ecological disaster of the Oder river should be used as a warning example of failed cooperation and lack of transparency.

1.3. The EESC maintains that pollution must always first and foremost be addressed at source, but recognises urban wastewater treatment as an important last filter to protect receiving waters with benefits for the environment, human health and society.

1.4. Micropollutants, such as pharmaceutical residues, are of increasing concern for water quality. The EESC therefore welcomes the proposal for selected urban wastewater treatment plants to install additional treatments for their removal and highlights the need for considerable efforts to 'break' the old standards through new innovative treatment methods.

1.5. To ensure the implementation of the 'polluter pays' principle, and ensure the affordability of water services, the EESC strongly supports the proposal for an Extended Producer Responsibility that would require producers to cover the cost of removing micropollutants resulting from their products from wastewater, but exemptions must be strictly limited for it to be efficient.

1.6. If the Directive is extended to cover agglomerations from 1 000 p.e. there must be room for decentralised solutions through small sized plants with special attention regarding functionality.

1.7. Sewer overflows are a hotspot for pollution, including antimicrobial resistance genes, microplastics and toxic substances that put at risk aquatic life, human health and the status of recreational waters. The Directive should introduce a cap on their occurrence and reporting to the public should give the full picture of the pollutant load carried by overflows. Urban run-off, in the form of polluted rainwater (including snow) from the urban landscape, e.g. roads, should be collected and properly treated before being discharged into receiving waters.

1.8. Climate change is affecting the water cycle, with predicted increased occurrences of heavy rains as well as drought. Preventive measures, such as blue-green solutions that capture and retain rainwater e.g. via green roofs or raingardens, decrease the load on sewers (thereby reducing the risk of sewer overflows) and bring many co-benefits for the urban landscape.

1.9. The EESC is concerned that water and sanitation are public services, but are sometimes provided by private companies. Rules and regulations need to be in place to ensure that public services are not run for profit and that revenues are invested in maintenance and improvement of the services.

1.10. The EESC highlights that water is a vital but increasingly scarce resource. Two thirds of European citizens consider water quality and/or quantity in their country to be a serious problem⁽¹⁾. For a successful implementation of SDG 6 'Ensuring access to water and sanitation for all' and for avoiding future crises, these concerns need to be treated with due urgency. Ensuring water affordability should be a priority for all Member States.

1.11. The EESC also calls on the European institutions to start addressing water as a priority and develop an 'EU Blue Deal': a radical effort to anticipate needs, to preserve water resources and adequately manage related challenges through a comprehensive and coordinated roadmap, setting ambitious targets and actions linked to agreed milestones. The EESC will make concrete proposals towards an EU Blue Deal in the course of 2023.

2. Commission proposal

2.1. The scope of the directive is proposed to be extended to cover **agglomerations from 1 000 population equivalents** (p.e.) meaning that small towns will also be obliged to collect and treat urban wastewater, and can seek EU funding to do so. The Commission will develop new standards for **decentralised facilities** and Member States will need to ensure better monitoring and inspection of such facilities.

2.2. **Sewer overflows** and **urban run-off** have been identified as important remaining sources of untreated urban wastewater and Member States will be required to set up **integrated management plans for urban wastewater** to reduce pollution from these sources. Priority should be given to preventive measures, such as blue-green solutions, and optimisation of existing systems using digital techniques.

2.3. To curb emissions of **nutrients**, new limits for nitrogen and phosphorus removal will be introduced, as a first step for larger facilities above 100 000 p.e. and then for medium-sized facilities above 10 000 p.e. in areas where eutrophication remains an issue. There will also be a requirement to remove **micropollutants** for all large plants and medium-sized plants where the environment or human health is at risk. With the aim of curbing the load of non-treatable substances, which will enhance possibilities for circularity, there are new obligations for Member States to address **non-domestic discharges** to sewer at source.

2.4. To cover the cost of the required upgrade and monitoring to remove micropollutants, and to incentivise the development of more environmentally friendly products, an **Extended Producer Responsibility** will be introduced requiring producers of pharmaceuticals and products under EU cosmetics rules to contribute financially.

2.5. A new target of energy neutrality for the wastewater sector by 2040 has been introduced, meaning that the energy consumed by the sector at national level should be equivalent to the amount of renewable energy it produces.

2.6. The proposal sets 2040 as the deadline for full compliance, with interim deadlines to ensure progress.

⁽¹⁾ European Water Association (EWA), *Water Manifesto*.

3. General comments

3.1. Clean water is one of our most precious resources, crucial for the functioning of ecosystems and our society as well as for socioeconomic activity. Agriculture, energy production, and the tourism sector are all heavily dependent on access to clean water. The United Nations recognises access to clean water and sanitation as a basic human need for health and well-being among the Sustainable Development Goals ⁽²⁾. Yet freshwater is under pressure from a range of activities, and this pressure is predicted to increase following climate change.

3.2. The Urban Waste Water Treatment Directive is the key piece of EU legislation that aims to protect the environment from the adverse impacts of untreated wastewater. In force for more than 30 years, since its adoption the quality of European rivers, lakes and seas has greatly improved, although two thirds of surface water bodies are still not in good status. EU countries have set up collecting systems and wastewater treatment plants with the help of EU funding. There is a high level of compliance with the directive across the EU, with 98 % of wastewater collected and 92 % satisfactorily treated, according to the current coverage of the directive.

3.3. The ongoing revision has the potential to bring the directive up to date by addressing remaining sources of untreated wastewater and new pollutants, as well as improving the energy and circular economy aspects of wastewater treatment in line with the Green Deal and the digitalisation of Europe. However, the EESC calls on the European institutions to include wastewater in a larger vision, start addressing water as a priority and develop an 'EU Blue Deal': a radical effort to anticipate needs, to preserve water resources and adequately manage related challenges through a comprehensive and coordinated roadmap, setting ambitious targets and actions linked to agreed milestones. The EESC will make concrete proposals towards an EU Blue Deal in the course of 2023.

3.4. Large investments are needed in the water sector. The OECD estimated that all Member States except Germany need to increase spending by at least 25 % to comply with the requirements of the existing Directive ⁽³⁾. This estimate, however, does not take into account the cost of sewer maintenance. The new rules will require additional investments and it is crucial that financing is broadened from water tariffs and the public budget to also include those sectors that contribute to the pollution of urban wastewater in order to keep access to water and sanitation affordable for households.

3.5. Wastewater treatment comes at a cost and requires input in the form of resources and energy. Pollution must always first and foremost be addressed at source and be prioritised over end-of-pipe solutions. Policy measures should therefore as far as possible restrict the emission of harmful substances into the environment and society in the first place. Urban wastewater treatment acts as a last filter to protect receiving waters and to meet the objectives of EU water legislation. The EESC is therefore calling for more synergy with urban development strategies (Urban Agenda for the EU, Ljubljana Agreement, different thematic partnerships, etc.).

3.6. More efforts should be invested to favour citizen empowerment on issues related to the collection, treatment and management of urban wastewater. The general public should not only be involved in the implementation of the treatment of wastewater in terms of information but also in terms of participation: mechanisms should be in place in all Member States for citizens to report back observed failures in the collection and/or treatment of urban wastewater with specific attention paid to illegal industrial discharges.

3.7. There is big potential for Europe to become a leader in providing solutions for the wastewater treatment sector, from advanced treatment technologies, to energy solutions. Development of the wastewater sector is a possibility for innovation and technology and an opportunity to export knowledge and attract young entrepreneurs.

⁽²⁾ United Nations, Sustainable Development Goals, Goal 6: Ensure access to water and sanitation for all.

⁽³⁾ OECD, *Financing Water Supply, Sanitation and Flood Protection*.

4. Specific comments

4.1. Urban wastewater is a footprint of society and our consumption and production patterns. It contains a complex mix of domestic discharges, run-off from streets and buildings, and industrial and other non-domestic effluents that need proper treatment to not pose a threat to human health and the environment or affect recreational waters. Working conditions and health and safety for the workers involved in the urban wastewater system should be a key priority.

4.2. The overall target for 2040 with interim targets sets out a clear path for wastewater treatment for the next two decades. However, we have limited understanding of the risks to aquatic life presented by mixtures of chemicals in surface waters, and many of these chemicals come from products used in our own homes. Furthermore, the construction, maintenance and operation of waste water collection and treatment come at high financial and greenhouse gas emission cost. Reviews and evaluations of key parts of the Urban Waste Water Treatment and Sewage Sludge Directives present the opportunity to modernise and improve coherence across the sector and help deliver on the ambitions of the European Green Deal.

4.3. Antimicrobial resistance is a growing concern for society, and urban wastewater, whether treated or not, is a hotspot for it spreading ⁽⁴⁾. Antimicrobial resistance is driven not only by excessive antibiotic use, but also by other antimicrobial agents, such as fungicides, antiviral agents, parasiticides, as well as some disinfectants and antiseptics, all of which are used in the urban environment especially in hospitals. If action, such as curbing excessive use of antimicrobial agents, is not taken, 10 million people yearly are projected to die from antibiotic-resistant infection by 2050, a UN report warns ⁽⁵⁾.

4.4. Urban run-off is a major pathway for toxic, non-biodegradable and emerging contaminants to enter aquatic ecosystems, including plastic debris, hydrocarbons, detergents, hormones, solvents, pathogens, pesticides, heavy metals and engineered nanomaterials ⁽⁶⁾. Despite being polluted, urban run-off is often handled as clean rainwater due to lack of monitoring and not treated before it is discharged to receiving waters. This represents a major risk to ecosystems; as an example, acute mortality has been observed in salmon linked to a toxic substance (6PPD-quinone) in car tyres ⁽⁷⁾.

4.5. Sewer overflows are a hotspot for micropollutants, antimicrobial resistance ⁽⁸⁾, microplastics and trash to enter receiving waters. They represent a threat to the environment and human health but also for the tourism sector, which depends on clean recreational waters. The load of rainwater to sewer can be reduced by the introduction of blue-green solutions that retain water and let it infiltrate into the ground, including green roofs, removal of impenetrable surfaces and rain gardens. Not only are they a cost-efficient way to retain rain water, but they also come with many co-benefits for the urban landscape, including reducing the risk for flooding, reducing heat islands and increasing biodiversity and well-being in the city. Achieving the transition to more efficient sewage treatment and a circular economy requires changes not only in regulatory and institutional approaches, but also in how we as citizens appreciate our individual and collective responsibilities towards sewage management.

4.6. The EESC supports the introduction of mandatory integrated urban wastewater treatment plans with the objective of reducing sewer overflows and pollution from urban run-off. But while the intention of the urban wastewater management plans is good, they risk becoming empty shells as the content and objective (of reducing combined sewer overflows to 1 % of dry weather flow) are only indicative. Proper rainwater management is crucial not only to prevent

⁽⁴⁾ UNEP, *How drug-resistant pathogens in water could spark another pandemic*.

⁽⁵⁾ UNEP, *Environmental Dimensions of Antimicrobial Resistance*.

⁽⁶⁾ Lapointe et al., *Sustainable strategies to treat urban runoff needed*, *Nature Sustainability* 5, 2022, pp. 366-369.

⁽⁷⁾ Tian et al., *A ubiquitous tire rubber-derived chemical induces acute mortality in coho salmon*, *Science*, Vol. 371, 2021, pp. 185-189.

⁽⁸⁾ EAWAG, *Monitoring antibiotic resistance in wastewater*.

pollution of receiving waters but also to adapt cities to a changing climate where both intense rain events and prolonged heat waves will be part of the new normal, as extreme weather events and other climate hazards are increasing in frequency and severity across Europe.

4.7. Advanced ('quaternary') treatment has been shown to decrease the load of a wide range of harmful substances to receiving waters⁽⁹⁾. The new requirements for large and selected medium-sized plants to monitor and remove micropollutants are therefore welcome. However, attention should be paid to the cost and removal effects obtained by different techniques, such as ozonation or activated carbon. Adequate financing for the R & D of the new technologies and EU-harmonised education schemes for operational staff will help prevent and treat new pollutants.

4.8. The introduction of Extended Producer Responsibility is a big step forward for the 'polluter pays' principle and a welcome response to the finding by the European Court of Auditors that the cost of pollution is still largely borne by taxpayers⁽¹⁰⁾. It is also in line with the integration of the PPP into environmental legislation, reinforcing the environmental liability regime at EU level, and better protecting EU funds from being used to finance projects that should be funded by the polluter.

4.9. Eutrophication remains an issue in the EU, with more than 30 % of rivers, lakes and coastal waters and 81 % of EU marine waters affected and little progress over the last decade⁽¹¹⁾. It is therefore positive that provisions have been brought up to date and harmonised to ensure that all large plants will have to reduce nutrients by 2035, and medium plants discharging into areas sensitive to eutrophication by 2040. Although the deadlines are very ambitious with regard to the challenges and their implementation, the investment capacity of the sector and the lifetime of the existing assets, many Member States already have such nutrient removal requirements in place and the EESC welcomes the harmonisation across the EU.

4.10. Small agglomerations have been identified in the evaluation of the UWWTD as representing a significant share of the remaining sources of untreated wastewater and exerting pressure on water bodies⁽¹²⁾. While it would be positive if more wastewater was treated, the proposal comes with several challenges, as the construction of new sewage pipes represents a significant cost in sparsely populated areas and needs to be accomplished with intensive financial support. Decentralised solutions and well-functioning individual systems should be promoted. Dry (composting) toilets reduce the consumption of drinking water for flushing and can promote circular economy by returning human faeces to the soil without complex, expensive and energy-intensive collection, pumping and treatment systems. The WHO has developed such guidelines for the safe re-use of wastewater, excreta and greywater⁽¹³⁾.

4.11. Leakage from sewage pipes is an often overlooked and largely unreported source of untreated wastewater that puts groundwater at risk. This can represent a significant share of the pollution load from urban systems on the environment⁽¹⁴⁾. The problem is likely to increase as the sewage network is ageing. Proper monitoring and quantification of sewer leakage is needed and should be included as a requirement in the Directive.

4.12. Wastewater treatment requires considerable amounts of energy and can often make up a significant share of municipalities' electricity bills. At the same time, wastewater contains energy in various forms, including chemical, kinetic and thermal, that should be harvested to decrease dependency on fossil fuels in line with EU objectives. It is positive that energy efficiency is being addressed with the objective of reaching energy neutrality for the sector by 2040.

⁽⁹⁾ Wilhelm et al., *Does wastewater treatment plant upgrading with activated carbon result in an improvement of fish health?*, Aquatic Toxicology, Vol. 192, 2017, pp. 184-197.

⁽¹⁰⁾ ECA, Special Report 12/2021, *The Polluter Pays Principle: Inconsistent application across EU environmental policies and actions*.

⁽¹¹⁾ European Commission, *Report on the implementation of Council Directive 91/676/EEC*.

⁽¹²⁾ European Commission, *Evaluation of the Council Directive 91/271/EEC*.

⁽¹³⁾ WHO, *Guidelines for the safe use of wastewater, excreta and greywater*.

⁽¹⁴⁾ Nguyen & Venohr, *Harmonised assessment of nutrient pollution from urban systems including losses from sewer exfiltration: a case study in Germany*, Environmental Science and Pollution Research, Vol. 28, 2021.

4.13. The wastewater sector has large potential to become resource-factories. There are already wastewater treatment plants in the EU that are energy-positive thanks to energy-saving technologies and renewable energy production, e.g. via anaerobic digestion of the sewage sludge and subsequent utilisation of the produced biogas ⁽¹⁵⁾. A further potential is the dual use of areas of treatment structure by covering with photovoltaic plants which should be promoted.

4.14. Ten million people still lack access to sanitation in the EU. It is therefore welcome that the proposal requires Member States to improve access to sanitation, in particular for vulnerable and marginalised groups, including providing public toilets free of charge by 2027. However, the requirement should be strengthened by requiring Member States to ensure access to sanitation for all at early stage of urban planning and consider the affordability and social aspect of water services. This includes the long lifecycle of waste water collection and treatment assets and their inherent inflexibility for adaptation or upgrading.

4.15. With a view to ensuring the affordability of water services, exemptions from the Extended Producer Responsibility schemes must be strictly limited. Preferably, the exemption for products placed on the market at less than 2 tonnes per year should be deleted as some substances are potent even at low quantities, and as a minimum it should be clarified that the 2 tonnes refer to the EU market and not the national level. It should also be ensured that the EPR covers online retailers.

4.16. The cost of wastewater treatment makes up a significant share of water bills, but many water users are not aware of the service that wastewater treatment provides, nor the extent to which wastewater treatment is performed well in their area. The new provision on the reporting of information to the public is therefore welcomed as it would ensure that up-to-date information is disseminated on the percentage of wastewater treated (and not treated) in the area, as well as the load of pollutants discharged by urban wastewater treatment plants and individual systems and also via sewer overflows and urban run-off.

Brussels, 22 February 2023.

The President
of the European Economic and Social Committee
Christa SCHWENG

⁽¹⁵⁾ See for example Marselisborg WWTP — from wastewater plant to power plant.