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Position Paper

on the European Commission's Proposal for the Revision of the Urban Waste Water Treatment Directive (COM 2022 (541) final)

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The German Association of Energy and Water Industries (BDEW) and its regional organisations represent over 1,900 companies. The membership comprises both privately and publicly owned companies at the local, regional and national level. They account for around 90 percent of the electricity production, over 60 percent of local and district heating supply, 90 percent of natural gas, over 90 percent of energy networks and 80 percent of drinking water extraction as well as around a third of waste water disposal in Germany.

BDEW is registered in the German lobby register for the representation of interests vis-à-vis the German Bundestag and the Federal Government, as well as in the EU transparency register for the representation of interests vis-à-vis the EU institutions. When representing interests, it follows the recognised Code of Conduct pursuant to the first sentence of Section 5(3), of the German Lobby Register Act, the Code of Conduct attached to the Register of Interest Representatives (europa.eu) as well as the internal BDEW Compliance Guidelines to ensure its activities are professional and transparent at all times. National register entry: R000888. European register entry: 20457441380-38.

Preliminary Remarks

On 26th October 2022, the European Commission published its legislative proposal for the revision of the Urban Waste Water Treatment Directive (91/271/EEC). Since its implementation, the Urban Waste Water Directive has contributed to improved water quality in the EU. Due to new environmental challenges, new objectives under the Green Deal as well as new waste water technologies, the Commission now sees the need for a legal revision to ensure the directive's usefulness and effectivity in the future.

The German Association of Energy and Water Industries (BDEW) welcomes the revision of the Directive and the legislative proposal of the Commission. The adaptation of the directive and its alignment with the policy objectives of the European Green Deal, the climate change targets, the Zero Pollution Strategy, and the Circular Economy Action Plan are beneficial and will lead to greater coherence between the different initiatives. This is a central step for comprehensive environmental and resource protection, climate protection, the reduction of pollution, and the guarantee of a sustainable, circular, and future-oriented economy and society.

BDEW particularly welcomes the inclusion of the Extended Producer Responsibility in the legal framework. In this way, the polluter pays principle will be bindingly implemented in the future and fair cost sharing for waste water treatment will be ensured. Above all, incentives will be created for the development of environmentally friendly materials and products that will reduce and avoid the inputs of critical substances at source. **BDEW regards the Extended Producer Responsibility (EPR) as an environmental milestone for modern waste water management based on the polluter pays principle in the coming decades.**

For the further legislative process, BDEW has drafted concrete recommendations that aim to suggest clear and achievable goals regarding timing and business management, and to implement the principle of control at source as well as the risk-based approach.

Key Demands from BDEW Perspective

1. **Reduction of Micropollutants and Implementation of the Fourth Treatment Stage (Article 8 and Annex 1):** When implementing further treatment stages, a risk-based approach should be followed, and the entire catchment area should be considered. Further treatment stages in waste water treatment plants should only be introduced where they are absolutely necessary and beneficial from an ecological point of view. Before installing further treatment processes in a waste water treatment plant, it needs to be examined if pollution of the receiving water is caused by other point or diffuse sources and which measures are to be taken at these sources in accordance with the polluter pays principle. Temporal coherence should be established between the implementation of the producer responsibility, the implementation of the fourth treatment stage and the implementation of the new limit values according to the annexes of the legislative proposal on the lists of pollutants in surface waters and groundwater.

2. **Implementation of the Extended Producer Responsibility (Articles 9 and 10):** BDEW strongly welcomes the implementation of the Extended Producer Responsibility (EPR). This constitutes the fundamental financial basis for the establishment and permanent operation of a fourth treatment stage at waste water treatment plants and is indivisibly linked to it. The Extended Producer Responsibility should be coordinated even more closely at the European level.

3. **Energy Neutrality (Article 11):** BDEW supports energy audits for waste water treatment plants. When demonstrating energy neutrality, the assessment framework should not be limited to the individual waste water treatment plant. Instead, it should be possible for operators to generate the renewable energy required for the operation of their plants at other locations or to purchase certified green electricity externally.

4. **Waste Water Monitoring (Article 17):** Continuous waste water monitoring of pathogens will be a completely new task for municipal waste water disposal. The analysis of the samples provided by the treatment plant operators should be carried out by the relevant official institutions of the health sector.

5. **Elimination of Nitrogen and Phosphorus (Annex 1):** The resources required for further improvement of nitrogen elimination exceed the achievable improvements in the water bodies. Setting stricter limits based on a risk-based approach considering the entire catchment area is appropriate and sufficient.

6. **Handling Stormwater Overflows and Urban Runoff (Annex 5):** BDEW welcomes the newly established instrument of comprehensive consideration of stormwater overflows in the catchment areas. However, the goal of limiting the load discharged from stormwater overflows to no more than 1% of the dry-weather load is disproportionately low and practically impossible to achieve in existing networks. A one-sided preference for a certain drainage system and against the prioritisation of separate systems over combined systems is not effective.

7. **Information to the Public (Article 24 and Annex 6):** The additional information provided should represent a clear added value for consumers. The principle of proportionality of the administrative effort should be observed. BDEW therefore proposes greater coherence with the requirements of the Drinking Water Directive (2020/2184/EU).

In Detail on the Commission's Proposal for a Directive (COM 2022/541 final)

1. Reduction of Micropollutants/Introduction of the Fourth Treatment Stage (Article 8 and Annex 1)

With its legislative proposal, the Commission plans the mandatory introduction of the fourth treatment stage for waste water treatment plants ≥ 100.000 p.e. The aim is to ensure that 50% of the waste water from these treatment plants is treated with the fourth treatment stage by the end of 2030. By the end of 2035, a fourth treatment stage is to be put into operation at all waste water treatment plants of the above-mentioned size.

In addition, there is the requirement to introduce the fourth treatment stage on a progressive basis at smaller waste water treatment plants (between 10.000 and 100.000 p.e.) in areas where the concentration and accumulation of micropollutants poses a risk to human health and the environment.

From the perspective of BDEW, the decision as to whether a further reduction of micropollutants is necessary and thus whether an advanced treatment stage at a waste water treatment plant should be implemented should not be made solely based on the size of the waste water treatment plant. Instead, a **risk-based approach** should be pursued on **both the emission and immission side**. Both **spatial conditions** and the whole **catchment area** should be taken into consideration.

Further treatment stages in waste water treatment plants should only be introduced where they are absolutely necessary and beneficial from an ecological point of view. Such an evaluation is also necessary against the background of the zero-pollution target, as the fourth treatment stage requires energy and thus causes emissions. An essential criterion is the existence of a corresponding pollution situation in the water body and whether this situation can be improved by further purification as to achieve higher quality. Before installing further treatment stages in a waste water treatment plant, it must also **be examined in each individual case which pollution of the receiving water body is caused by other point or diffuse sources and which measures are to be taken at these sources in accordance with the polluter pays principle**. Moreover, the effectiveness of the fourth treatment stage varies with respect to individual micropollutants; no process treats all micropollutants. Consequently, the stringent specifications for the elimination of micropollutants according to Table 3 of Annex I severely restrict the design options for fourth treatment stages. Thus, only special combination processes with high operating costs and high energy consumption could potentially be considered. Therefore, increased leeway for the design based on the respective local conditions and on the basis of the risk-based approach would be preferable.

BDEW points out that **the process of planning, approval by the water authorities, construction, and commissioning of a fourth treatment stage will take about 10 to 15 years** and thus

far exceeds the time frame for the expansion of the fourth treatment stage as proposed by the Commission. As it cannot be assumed for certain that the current legislative proposal will be formally adopted by Council and Parliament before 2024 and, with the currently envisaged transposition period into national law of 23 months, this directive will not be nationally binding before 2026. A significant **extension of the time periods is imperative for this reason alone**.

Furthermore, BDEW points out that the operation of the **fourth treatment stage not only entails considerable costs for investments (CAPEX), but also generates additional costs in the ongoing operation (OPEX). For example, very high energy consumption** (see point 3), the consumption of additional operating materials such as activated carbon as well as their procurement and disposal, lead to a permanent additional burden. Taking into account the current tense situation in economy and society, these costs would not be manageable through the existing cost recovery principle and counter-financing through tariffs and fees. Consequently, the provision for financing through the extended producer responsibility is vital. Moreover, the additional electricity demand of an additional 20 to 30% for an almost nationwide introduction of the fourth treatment stage, considerably thwarts the objective of energy neutrality, which is also set in the Directive.

In 2018, Civity Management Consultants was commissioned by BDEW to conduct a study on the costs and financing of a fourth treatment stage in waste water treatment plants. It was determined that the costs of introducing a fourth treatment stage would amount to approx. 1.2 billion euros/year in Germany and approx. 6.5 billion euros/year in Europe. The current inflation and high interest rates for investments by waste water operators has not yet been taken into account here. Given the current economic situation, a significant increase in annual costs can be assumed. Against this backdrop, the establishment of the Extended Producer Responsibility as a necessary and fair method for the assumption of the costs for the overall financing (CAPEX, OPEX) must be ensured. Regarding the timeline and sequence of measures, financing should first be ensured via the extended producer responsibility before obligations to build the fourth treatment stage take effect. This is reasonable as a cost increase already occurs in the initial planning phase. BDEW therefore considers it vital to create a temporal correlation between the actual introduction of the extended producer responsibility and then secondly, the technical, concrete implementation of measures for the establishment of the fourth treatment stage.

Furthermore, for the sake of coherence of the EU requirements, the timeframes for measures of the annex of the legislative proposal on the lists of pollutants in surface waters and groundwater (COM (2022) 540 final) should be synchronised with those of the Urban Waste Water Treatment Directive.

2. Extended Producer Responsibility (Articles 9 and 10)

The current legislative proposal provides for the legally binding introduction of the Extended Producer Responsibility (EPR), which would finance the costs of monitoring micropollutants and the expansion of the fourth treatment stage. This would apply the polluter pays principle to producers who put more than two tonnes of a relevant substance on the market, given that said substance leads to micropollutants in waste water. The manufacturers concerned unite in so-called Extended Producer Responsibility Organisations. So far, human pharmaceuticals and cosmetic products are included in the scope of the extended producer responsibility.

BDEW expressly welcomes the introduction of EPR as a way to implement the polluter pays principle. It is the **fundamental financial basis for the establishment and permanent operation of a fourth treatment stage at waste water treatment plants and is inseparably linked to it**. With the legally binding anchoring of this measure, the polluter pays principle is taken into account as an essential principle of environmental law. Simultaneously, innovations that are geared towards the prevention of pollutant inputs into water bodies are promoted. In the existing financing system, the producer receives a quasi "licence to pollute", as they can contribute to pollution without sharing in the environmental costs and without quantity limits.

In the future, the Extended Producer Responsibility should not only be applied to the product groups of pharmaceutical products for human use and cosmetic products. Instead, an extension to other product groups, in line with the approach of the List of Priority Substances, should be possible. This is particularly relevant where additional treatment stages are required due to the corresponding substance entries.

The extended producer responsibility organisations required for the implementation of EPR (according to Art. 10) should be set up before the commissioning of the 4th treatment stage. In case the operators of waste water treatment plants should be granted more time for the implementation of the fourth treatment stage in individual cases, this is no reason to postpone the establishment of the necessary organisations. The provision of sufficient financial resources should be based on the forecast demand.

From the perspective of BDEW, EPR should be coordinated even more closely at European level. BDEW calls on the Commission to establish further clear guidelines and framework requirements. In particular, member states must not be given the power to establish exemptions.

In addition, users and consumers must of course continue to be considered. Avoidance, prevention, and removal at the source must be regulated more bindingly. The legislative gap of not prohibiting the discharge of non-regulated pollutants, de facto allowing the introduction of these non-regulated pollutants into the water cycle without risk assessment, must be closed. These and other measures must be implemented in addition to the extended producer responsibility and can supplement – but not replace it.

In this context, BDEW emphasises the possibility of **implementing the extended producer responsibility within the framework of a fund model**. To this end, the Ruhr-West University of Applied Sciences, together with the consulting firm MOcons, has developed a model based on practical experience, that provides for a polluter-pays fiscal charge, e. g. for medication discharges. It should serve to finance treatment measures and at the same time create incentives to avoid harmful substances.

This model has shown that there is a practicable model for the implementation of the extended producer responsibility as planned by the European Commission in Germany, which could also be applied on a large scale in the European context.

Basic Concept of the Fund Solution:

- A fund is set up, whereby the financial resources are provided by contributions from all polluters (manufacturers and importers) responsible for causing the trace substance problem.
- A polluter is any manufacturer or importer that brings products onto the market which contain trace substances – irrespective of whether an environmental quality standard is exceeded in the catchment area where the polluter is based or not. The polluter's "responsibility for trace substances" – and thus its obligation to pay – refers to the entire country.
- Payments into the fund are calculated on a polluter-pays basis according to the relative harm-fulness of the trace substances. The determination of the pollution units and thus of the level of harm caused is calculated by multiplying the load with the reciprocal EQS value (so-called harmfulness coefficient).
- On the basis of continuous testing of waters, taking into account both diffuse and point sources, the payments will be dynamically adjusted according to the changing levels of trace substance inputs – both in relation to currently detectable and relevant trace substances as well as in relation to new trace substances which may be identified in the future (further development of EQS). The (international) upstream-downstream problem is also completely accounted for.
- The fund-based solution is technology neutral, hence polluters can decide independently which measures they wish to take to reduce trace substances.
- Waste water treatment companies expand, subject to certain requirements, their waste water treatment in order to eliminate trace substances. Any costs incurred specifically in this regard are reimbursed from the fund.

- Likewise, the fund will cover the costs of practical measures whose central objective is to sensitize professional and private users to the issues in order to induce them to handle the substances and products in question in a manner as to minimize contamination.

3. Energy Neutrality (Article 11)

With regard to the energy neutrality of the waste water sector, the legislative proposal first provides for the gradual introduction of energy audits for all waste water treatment plants of 10.000 p.e. or more by the end of 2030. In addition, the renewable energy produced at waste water treatment plants with a population equivalent of 10.000 or more is to cover the entire energy demand of these plants by the end of 2040. This will make a significant contribution to achieving the climate protection targets by the waste water industry. **BDEW understands energy neutrality as covering the energy demand on the basis of climate-neutral energies.**

BDEW welcomes the four-year energy audits for waste water treatment plants planned in the proposed directive. Many operators of waste water treatment plants already conduct them voluntarily. Audits can help to identify and exploit existing potential. Similar reporting obligations are already imposed on the waste water sector in various other places in European legislation (e.g. in the Corporate Sustainable Reporting Directive). It is therefore important to harmonise the requirements in order to avoid duplication. For example, an integrated audit could be envisioned. Small and medium-sized enterprises must not be disproportionately burdened.

Waste water management is in itself a sustainable activity and contributes significantly to water and environmental protection. The German waste water sector is also aware of its potential in terms of avoiding greenhouse gases and has long since begun to implement efficiency and emission reduction measures with considerable investment. In addition, many operators have been minimising their energy consumption for decades. These efforts will be continued in the future.

To further improve the database and scientific knowledge on the causes and extent of greenhouse gas emissions in waste water treatment and sludge treatment, further research activities and standardisation in the measurement methods for recording nitrous oxide and methane emissions are required.

However, BDEW points out that smaller sewage treatment plants do not have sewage sludge digestion, as this is only economically viable above a certain size. It is also not possible to build additional photovoltaic or wind power plants at every location. Moreover, the generation of energy is not the primary task of waste water disposal. Against the background of the other measures envisaged in the directive, it should be noted that the introduction of a fourth treatment stage or stricter limit values for nitrogen and phosphorus will lead to an increased energy demand, which creates a conflict of objectives and therefore stands in contradiction to energy reduction targets.

Hence, BDEW strongly suggests that the assessment framework for the verification of energy neutrality should not be limited to the individual waste water treatment plant. Instead, operators should be able to generate the renewable energy required for the operation of their plants at other locations or to purchase certified green electricity externally. The smaller waste water treatment plants in particular cannot generate the quantities of sewage gas and thus electricity required for a self-sufficient power supply as they do not have any digestion of sewage sludge. Furthermore, considering the given timeframes for these measures in the directive, the deadlines proposed should be extended.

4. Waste Water Monitoring: Covid-19 Monitoring and Monitoring of other Health Parameters (Article 17)

In the future, Member States should continuously test various health parameters in waste water. In order to combat SARS-CoV-2, and especially if a public health emergency is declared in connection with the virus, comprehensive monitoring of this parameter is to be carried out. In addition, the proposed directive introduces antimicrobial resistance monitoring from the beginning of 2025.

Based on the Commission Recommendation on a Common Approach to Establish Systematic Surveillance of SARS-CoV-2 and its Variants in EU Waste Water (2021/472/EU), and with the help of the funding provided by the Emergency Instrument, pilot projects have been launched to monitor the occurrence of the virus in several European Member States. BDEW supports the implementation of such projects, many of which have provided helpful insights. Many of the larger operators in Germany have participated. Nevertheless, it must be emphasised that monitoring the virus in waste water cannot replace clinical testing and it is not possible to trace back infections or identify vaccination breakthrough infections. Further pilot projects are needed to draw meaningful conclusions about a possible pandemic development. Still, the German waste water industry is very much aware of the relevance of waste water monitoring with regard to the various health parameters.

However, BDEW emphasises that **continuous waste water monitoring of pathogens** will in principle be a **completely new task for municipal waste water disposal**. Sampling at waste water treatment plants can be carried out with manageable additional effort. However, the analysis of these samples exceeds present capabilities. Waste water treatment plants do not have the highly specific and very cost-intensive laboratory analytics required for such tasks. Their acquisition and operation would also lead to further financial burdens. A practicable solution would therefore be for the treatment plant operators to take samples and have them **analysed in official institutions of the health sector, who also carry the related costs**.

With regard to the monitoring of antibiotic resistance, BDEW proposes that testing be carried out at the level of water bodies. This should be done by the competent authorities. It should

also be considered what consequences the results should have. In Germany, the federal government's antibiotics strategy was implemented some time ago, which has led to a significant reduction in the use of antibiotics and a more restrictive prescription requirement. In Germany, antibiotics are generally available only on prescription.

5. Elimination Rates of Nitrogen and Phosphorus (Annex 1)

The legislative proposal provides for new concentration and elimination rates for nitrogen and phosphorus for waste water treatment in the third treatment stage.

The new limits for total nitrogen (6 mg/L or 85%; according to Annex I, Table 2) will pose major challenges for many operators. The volume or size of waste water treatment plants is essentially determined by the requirements for nitrogen elimination. In this respect, stricter requirements will inevitably lead to further high investment and operating costs, which will presumably be incurred at the same time as the expenses for the 4th treatment stage. In addition, the energy demand for nitrogen elimination will increase significantly, so that the goal of energy neutrality (see Article 10) will be even more demanding.

Moreover, the resources required for further improvement of nitrogen elimination exceed the achievable improvements in the water bodies. In this respect, the overall environmental impact would be negative. In Germany, stricter limits are already set in individual cases considering the risk-based approach and the catchment area, taking into account local conditions.

The German Sewage Sludge Ordinance contains an obligation to recover the phosphorus contained in waste water and incorporated in sewage sludge. At the same time, however, it must be ensured at both national and EU level that the recovered phosphorus can be recycled. To this end, market access must be created. This could be achieved, among other measures, through EU-wide authorisation and by reducing or avoiding competitive barriers. In order to be able to guarantee a sustainable economic development of phosphorus utilisation, it would be possible to provide for a binding purchase quota. This is also coherent and expedient in the context of the sustainability of supply chains and the measures and goals envisaged by the Commission in this context. At the same time, such measures contribute to achieving the circular economy goals.

6. Stormwater Overflows and Urban Runoff (Annex 5)

Under the new Integrated Urban Waste Water Management Plans, Member States will be required to set stormwater management targets as part of the plans.

BDEW welcomes the newly established instrument of comprehensive consideration of stormwater overflows in the catchment areas. Germany has already been carrying out such practice in the form of integrated drainage planning for many years in numerous catchment areas, and

corresponding experience is available. However, the projects carried out also show that the target formulated in the draft directive of limiting the load discharged from stormwater overflows to no more than 1% of the load in dry weather conditions is disproportionately low and practically impossible to achieve in existing networks. In addition, the gradual elimination of untreated urban runoff through separate systems is envisaged; unless it can be demonstrated that the discharges do not have an adverse impact on the quality of the receiving waters.

BDEW strongly opposes a one-sided preference for a specific drainage system and the priority of separate systems over combined systems. Instead, the achievement of at least good status in the receiving water body according to the Water Framework Directive (2000/60/EC) should be aimed for.

In order to assess the pollution caused by stormwater overflows and urban runoff, a balancing should be drawn up according to water catchment areas. From the point of view of water bodies, an immission assessment is more effective than the blanket application of measures based on population equivalents.

In high-density urban areas, there is often not enough space to allow for the subsequent treatment of polluted stormwater. Up to now, the federal states have set corresponding regulations and limit values. Accordingly, the balances are drawn up for the entire catchment area. BDEW points out that the inclusion of individual plants in the monitoring practice would not be expedient, as the determination of the discharge water volume would involve considerable additional (administrative) burden and should be avoided as far as possible.

7. Information to the Public (Article 24 and Annex 6)

The legislative proposal provides for the introduction of extensive information requirements vis-à-vis the public. For example, certain information is to be made available online in an appropriate format and up to date, while a range of other information is to be made available at least once a year without being requested and in the most suitable and easily accessible form.

From BDEW's point of view, the overall objective of providing information is welcomed. Waste water treatment plant operators already provide very extensive reporting – in many cases web-based.

The additional information provided should represent a clear added value for consumers. The principle of proportionality of the administrative effort should be observed. BDEW therefore proposes greater coherence with the requirements of the Drinking Water Directive (2020/2184/EU). The current proposal of the Commission for the urban waste water treatment directive, however, goes far beyond the requirements of the Drinking Water Directive in this regard. Against this background, the information requirements of the Drinking Water Directive that have now come into force are proportionate and sufficient.

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