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Baltic Sea Centre's reply to DG ENV's consultation on the evaluation of the Urban Waste Water Treatment Directive (UWWTD)

In our reply the Stockholm University Baltic Sea Centre focuses on the relevance criteria.

Our primary message is that the UWWTD needs to be part of the solution to fulfil and reach the targets under both the current and future Water Framework Directive, its daughters, and the Marine Strategy Framework Directive. For this to happen the directive needs to be revised to include removal of hazardous substances in addition to the currently regulated removal of nitrogen, phosphorous and organic matter in urban wastewater treatment plants (UWWTPs).

In a Sustainable Development Goal and circular economy context, the directive is highly relevant. If well-structured, it can be part of ensuring that the flow between wastewater and drinking water is contaminant free, that the reuse of water for irrigation and sludge for fertilisation does not pollute fields and crops and that the release of microplastic particles and fibres to the environment is minimised.

The focus of abatement of legacy pollutants such as PCBs and dioxins have traditionally been focussed on industrial point sources, but in recent decades it has become evident that households, workplaces, official institutions and urban areas comprise a significant source of many chemical contaminants occurring in the aquatic system. More than 1000 chemicals that are rarely monitored, but known or suspected to cause adverse ecological effects, have been identified in European waters¹. Almost half of the European freshwater bodies have been identified as likely threatened by chronic long-term effects on sensitive aquatic organisms². Many synthetic chemicals or naturally occurring substances emitted as a result of human activities reach the waterways via WWTPs. The quality of treated wastewater should therefore also be defined in terms of hazardous substances.

Chemical legislation and upstream measures to reduce the chemical load must remain key. But in particular pharmaceuticals are difficult to regulate based on environmental risks as they have invaluable benefits for humans. They are also often poorly removed as many are by design highly water-soluble compounds that are resistant to biodegradation. This problem is foreseen to increase as with an ageing European population, ever more pharmaceuticals will be consumed.

In a review of the UWWTD, the possibilities to demand more stringent treatment of wastewater to remove substances of environmental concern should be assessed, in particular for UWWTPs that serve large agglomerations. The largest WWTPs collect the majority of generated

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wastewater, and are therefore important collection points for many chemical flows. To give an example, out of the 615 WWTPs within 20 km from the Baltic Sea coast, ca 45 plants receive wastewater from more than 100 000 p.e. and together treat wastewater from almost 70% of the coastal population. Upgrading these large WWTPs with advanced treatment technologies would on average remove 70-80% of the micropollutants in outgoing water, reducing the total load from all coastal WWTPs by approximately 50%.

In a review of the directive the definition of “sensitive area” under Art. 5 should be looked at, especially in relation to “fulfilling Council Directives” by going beyond eutrophication and include e.g. limit values for priority substances. The compliance level with the current treatment requirements in these areas is 88% (8th Implementation Report). This gives grounds for the possibility to expand the scope of the meaning of sensitive areas and give priority to reducing pollution according to its impact on the chemical quality of receiving waters.

A modern UWWTD has the opportunity to facilitate innovation. Requirements for more advanced wastewater treatment will drive down costs and energy demand per cubic meter as technologies develop and prices drop with growing market demand.

With increasing water scarcity the potential price of inaction may prove more costly than taking action now.

For more information and references please see <http://balticeye.org/en/pollutants/policy-brief-advanced-wastewater-treatment/>

- (1) NORMAN. Norman network - Emerging substances. (2017). Available at: www.norman-network.net
- (2) Malaj, E. et al. Organic chemicals jeopardize the health of freshwater ecosystems on the continental scale. Proc. Natl. Acad. Sci. U. S. A. 111, 9549–54 (2014).