

Navigating the revised EU Urban Wastewater Directive with Alfa Laval's expertise

Europe stands at a pivotal moment in urban wastewater management. The Urban Wastewater Treatment Directive, effective for over three decades, must now evolve to address new-age contaminants. The rise of micropollutants from pharmaceuticals and cosmetics and increased stormwater overflows present a substantial environmental challenge that the existing legislation must confront.





Adopting the Directive's new standards

The latest iteration of the EU Urban Wastewater Directive propels the industry towards a more sustainable and environmentally conscious approach. It enforces stringent nutrient removal protocols, necessitates the elimination of a wider array of micropollutants, and calls for comprehensive urban runoff and stormwater management—these updates task municipal water treatment plants with a significant and prompt overhaul of their current operations.

Upgrading for enhanced nutrient removal

The Directive's focus on stricter nutrient removal actively battles eutrophication. Excessive phosphorus and nitrogen, often stemming from agricultural runoff, human waste, and industrial discharges, foster algal blooms that deplete oxygen and devastate aquatic ecosystems.

This emphasis on stricter nutrient levels challenges treatment plants to implement more refined processes. Plants are pressed to modernize or seek new technological solutions to meet the enhanced standards, entailing considerable technological investment and financial planning.

Addressing micro-pollutants in wastewater

Our waters face contamination from micro-pollutants—pharmaceutical remnants, personal care products, pesticides, and chemicals. These pollutants, active at minute levels, threaten wildlife and human health. Conventional treatment methods fall short in addressing these contaminants, necessitating the deployment of advanced treatment technologies like activated carbon filtration, advanced oxidation, and membrane-based processes.

Building resilience against climatic variability

The Directive mandates that under 1% of discharged water be untreated, a rule with significant implications for treatment facilities. Plants must now manage near-total treatment even during surge events caused by climate change-induced weather anomalies.

Existing infrastructure may need to be improved for such demands, prompting plants to contemplate significant upgrades or expansions. The financial and spatial requirements for creating additional storage or enhancing processing capacity can be substantial, pushing the limits of current operational and budgetary constraints.

Alfa Laval's solutions:

Pioneering wastewater treatment technologies

Alfa Laval, with its deep expertise in wastewater handling, offers a suite of innovative solutions tailored to meet the challenges of the revised Directive:

1. Advanced sludge dewatering with ALDEC G3

Alfa Laval's ALDEC G3 decanter centrifuges stand ready to assist facilities in managing greater sludge volumes, ensuring compliance with the nutrient removal mandates.

2. Enhanced biological treatment with MBR membranes

The MBR membranes from Alfa Laval are not only engineered to effectively remove conventional contaminants and micro-pollutants, meeting the Directive's stringent criteria, but they also serve as an ideal pretreatment step for some of the more advanced wastewater treatment technologies.

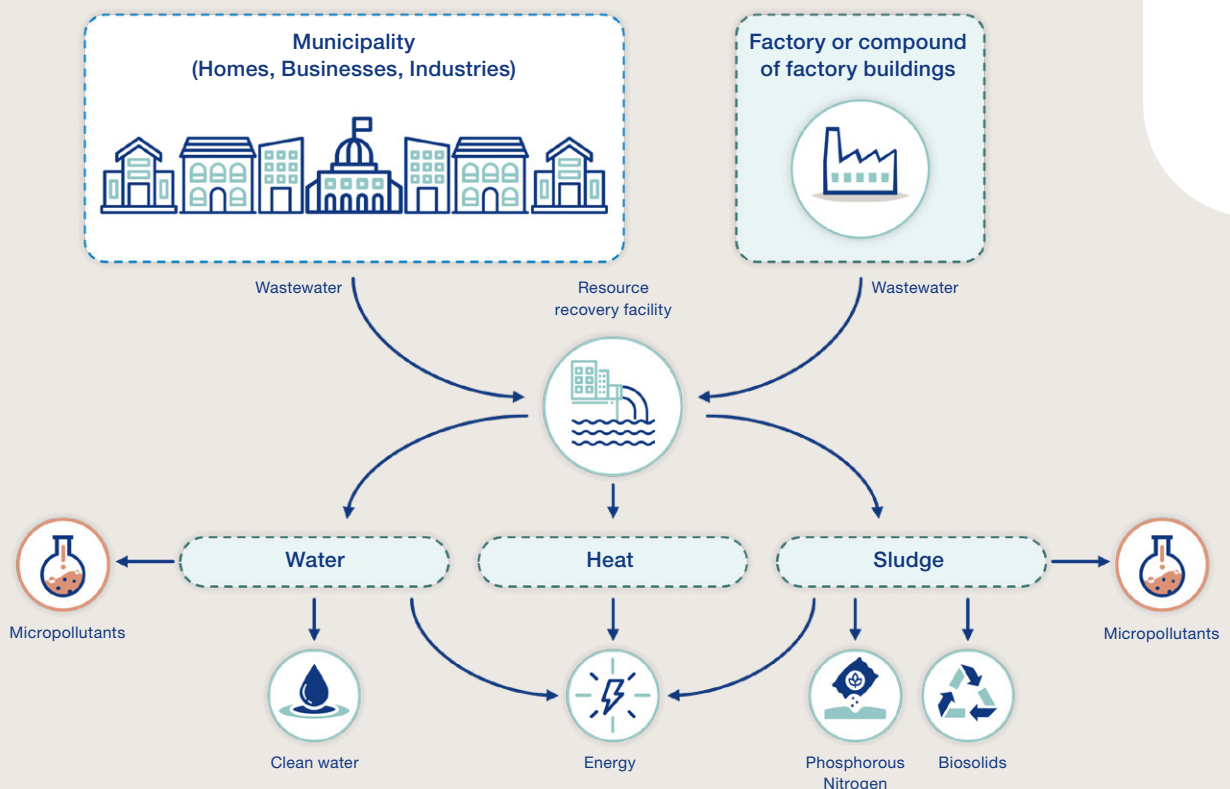
3. Promoting circular economy with Zero Liquid Discharge systems

Alfa Laval's ZLD systems exemplify the Directive's vision for a circular economy by extracting valuable resources from wastewater, thus minimizing waste and reducing pollution.

4. Tackling microplastics with efficient membrane technology

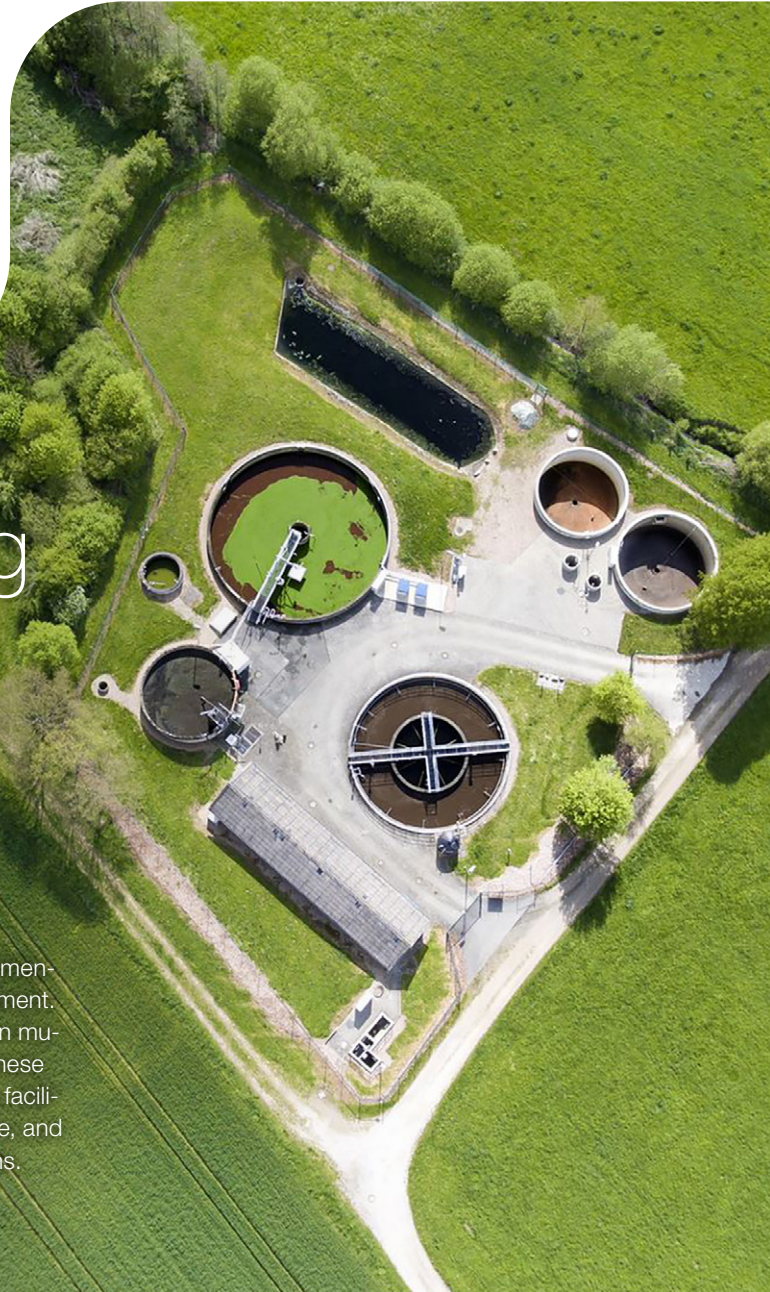
Alfa Laval's membrane technologies are proven solutions for eliminating microplastics, which is crucial for adhering to the new directive's monitoring and treatment standards.

Towards an energy-neutral resource-recovery plant



Future-proofing wastewater treatment with Alfa Laval

The revised directive sets a new standard for environmental governance and resource-efficient water management. Alfa Laval's advanced technological solutions position municipal water treatment plants to meet and surpass these evolving challenges. By collaborating with Alfa Laval, facilities can transition towards more sustainable, effective, and regulation-compliant wastewater treatment operations.



Read more about the Commission's proposal to revise the urban wastewater treatment directive.

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To read more about how Alfa Laval helps you solve your wastewater challenges

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How to contact Alfa Laval

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