HACH®

Be Right™

The Future of Treatment **Compliance Made Simple**

Everything You Need to Tackle the New Urban Wastewater Treatment Directive (UWWTD)



Regulations Are Changing – The Time to Act Is Now

The revised Urban Wastewater Treatment Directive (UWWTD) has arrived, setting higher standards that impact every treatment plant. Enhanced limits on nutrients and micropollutants are shaping today's decisions, offering a valuable opportunity to advance water quality and create lasting benefits for communities and the environment.

These standards may require adjustments, from infrastructure upgrades to process optimisation. Acting early gives you a clear advantage: time to explore smarter, cost-effective solutions that improve performance without overcomplicating your daily operations.

This guide will show you exactly how to get ahead of the curve through optimised processes, reliable data, and intelligent control, helping you reduce energy and chemical consumption, lower operational costs, and meet tomorrow's standards with today's infrastructure.

Get ready to turn new requirements into new opportunities.



CHALLENGE 1

Nutrients: Stricter Limits, Smarter Control



CHALLENGE 2

Energy Neutrality: Efficiency First



CHALLENGE 3

Micropollutant Removal: A New Frontier in Treatment



CHALLENGE 4

COD vs. TOC Monitoring: New Rules, New Choices

CHALLENGE 1

Nutrients: Stricter Limits, Smarter Control

Heads Up

More stringent discharge limits are on the horizon: large treatment plants over 150,000 PE will be required to treat nitrogen and phosphorus, regardless of whether they're located in sensitive areas.

NEW LIMITS AS EARLY AS 2033

N

Total Nitrogen:

≤ 10mg/L for 10.000–150.000 PE

≤ 8 mg/L for ≥150,000 PE

P

Total Phosphorus:

≤ 0.7 mg/L for 10,000–150,000 PE

≤ 0.5 mg/L for ≥150,000 PE

WHY IT MATTERS

Lower nitrogen and phosphorus limits aren't just tougher numbers. They represent a real technical and economic challenge for operators. For many plants, staying compliant will mean rethinking the biological treatment stage entirely, with far-reaching impacts on daily operations. Complexity is increasing across the board: construction, instrumentation, energy use, and chemical consumption are all driving up costs.

Without automation and continuous data, the risk of non-compliance grows significantly. That's why the priorities are clear:

- Identify the most cost-effective path forward
- Start preparing now, not later
- Keep operating costs under control while ensuring compliance

Get Ready

Stricter nutrient limits call for more intelligent and integrated operations. By leveraging advanced process control and real-time monitoring of key parameters, such as orthophosphate, ammonium, and nitrate, utilities can enhance overall performance across multiple fronts. Coordinated strategies like:



Dynamic chemical dosing



Optimised aeration



Automated recirculation



Adaptive carbon dosing

Work together to optimize reagent consumption, reduce energy use, maintain stable performance and ensure long-term compliance. This holistic approach enables operators to respond effectively to changing conditions, without the need for costly infrastructure upgrades.

CHALLENGE 2

Energy Neutrality: Efficiency First

Heads Up

By 2045, wastewater plants > 10,000 PE must aim for energy neutrality on a national level.

KEY GOALS

- Reduce energy consumption on-site
- Increase renewable energy production
- Conduct regular energy audits
- Monitor greenhouse gas emissions

BIGGEST ENERGY USERS

- **Aeration in biological tanks:** The top energy driver in activated sludge systems. Smart, automated oxygen control can cut energy use significantly.
- **Water Pumping:** Often overlooked, RAS and internal recirculation pumps can be major energy drains. Efficient sizing and control make a big difference.

Get Ready

Focus on process optimisation and energy recovery strategies such as:



Load-dependent aeration control



Biogas production improvements



Real-time monitoring of emissions and system performance



CHALLENGE 3

Micropollutant Removal: A New Frontier in Treatment

Heads Up

For the first time, all treatment plants >150.000 PE or in sensitive areas must remove 80 % of micropollutants (like pharmaceuticals) by 2045.

CHALLENGES

- Hard to detect with standard tests
- Removal requires advanced treatment (e.g., ozonation, activated carbon)
- Direct measurement is delayed, complex and costly

WHY IT MATTERS

Plants need simple, indirect ways to track treatment performance consistently.

Get Ready

Use surrogate parameters like SAC254 and turbidity, along with supporting sensors, to monitor and optimise your quaternary treatment stage.



CHALLENGE 4

COD vs. TOC Monitoring: New Rules, New Choices

Heads Up

The new EU Directive (2024/3019) gives Member States the option to monitor TOC instead of COD for organic load.

KEY CHANGES

TOC (Total Organic Carbon)

- Faster results
- No hazardous chemicals
- Based on EN 1484 standard

COD (Chemical Oxygen Demand)

- Long-standing method
- Widely accepted
- Integrated into existing workflows

WHAT TO EXPECT

Some countries may switch to TOC, others will stick with COD, so staying flexible is key.

Get Ready

Make sure your monitoring setup can handle both methods. Choose solutions that support both laboratory and online applications, keeping you flexible to respond to whichever approach is required.



A Trusted Partner in Wastewater Treatment

Hach® is a global leader in wastewater treatment, backed by nearly a century of analytical expertise and a proven track record. With worldwide installations ranging from 1,000 PE to 3.8 million PE, we have optimised plants that serve over 40 million PE worldwide. Our instruments provide full transparency for your 24/7 efficient and compliant operations, delivering reliable data and exceptional uptime. We simplify compliance for you with intelligent control software, and holistic solutions from collection to discharge.

90+
years of Dr. Lange analytical expertise

1,900
associates serving European customers

31,000+
wastewater treatment plants equipped in the EU

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