

WEBINAR

REVISED REGULATION – RENEWED CHALLENGES: THE EU URBAN WASTEWATER TREATMENT DIRECTIVE

Three decades after the introduction of the European Urban Wastewater Treatment Directive, a large-scale revision is now approaching the finish line. It brings answers to challenges and threats that either weren't there or weren't recognized 30 years ago. It will also send planners, managers and stakeholders in member countries and candidate countries scrambling back to their drawing boards. Why? How? Read on!

Born out of improvised digital responses during the Covid crisis, the Danube Water Program's KnowNow webinars have found a sizeable fanbase and are now a staple in the information menu of water service sector professionals everywhere in the region. They give very compressed 75-minute rundowns on burning current topics, usually in the format of a presentation plus panel discussion with questions from the audience included in the exchange.

22 February brought a first in the history of the KnowNows – a webinar that blew its timeframe. “Maybe we should have another session soon and schedule two hours”, remarked Michel Sponar, deputy head at the European Commission's Directorate-General for Environment at the end of a lively discussion that had generously overdrawn the available time budget. Which was not really surprising, because the day's topic was the current revision of the European Urban Wastewater Treatment Directive, and here the stakes are extra high.

A real success story

Moderated by World Bank Senior Water Resource Specialist and DWP Team Leader Raimund Mair, the webinar started with Mr. Sponar's presentation on the intentions, processes and recommendations of the ongoing revision of the directive that had come into effect in 1991 and

still keeps giving one generation later: “I think we can be proud of the directive”, remarked Mr. Sponar. “The results are tangible. We have managed to really improve the infrastructure everywhere in the EU, and we have improved the water quality measurably. Some member states still need efforts to ensure full implementation, but overall we are above 95% implementation.”

Mr. Sponar notes that the secret of the success of the directive is its simplicity and clearness regarding tools and deadlines, combined with what he calls a carrot & stick approach, with numerous infringement procedures thrown at for member states for not respecting the deadlines and objective of the directive, and at the same time funding for countries that were wrestling with the ambitious targets: “We are investing on average 2 billion euros per year into water infrastructures in member states.”

Room for further improvement

Still, a recent in-depth analysis identified plenty room for improvement when it comes to remaining pollution from urban sources, nitrogen and phosphorus accumulations that are threatening water bodies, sludge management, the energy use of treatment plants, governance and reporting, and last not least coherence with other legislation, mostly related to the European Green New Deal.

Noting that the European wastewater sector is a captive market with a large share of public operators, limited competition and very limited choices for consumers, Mr. Sponar turned to the special requirements of this market. “The polluting load is concentrated in a relatively small number of facilities across the European Union”, he explained. “Agglomerations with more than 100.000 inhabitants produce 46% of the load, and with targeting a relatively moderate number of facilities we can have a big impact on the polluting load going back into the rivers.” Another characteristic of the sector is that it is financed by 70% tariffs and 30% public budgets, with shares varying hugely among member states.

Lots of homework

The main concern of the ongoing revision of the directive is tackling the remaining pollution: In spite of the huge efforts made during the last three decades, a lot of homework remains on the table, caused on one hand by non-compliance with the existing directive, by deficient control of small decentralized facilities, by climate change that aggravates the rainwater management problems in urban regions, by outdated standards, especially regarding nitrogen and phosphorus emissions, and by recently identified threats like micropollutants.

The necessary revision is a five-stage process of formulating best practice recommendations, consulting with member states and stakeholders, ensuring an effective cost-benefit relation, real enforceability and reasonable administrative burdens, and pouring all that into a legal proposal. Here, Mr. Sponar noted that the revision contains nothing that is not already in place in at least one member state. “The real challenge is to bring everybody to the same level of ambition.”

Changes with considerable impact

Mr Sponar then walked the audience through the changes of the status quo in the Commission’s proposal.

- To further improve water quality, it will call for integrated rainwater management as a general objective, leaving a lot of flexibility for member states to find the best solutions at

local level and recommending optimization of the existing infrastructure and bringing more green to cities.

- Maybe the most striking change is that the scope of the directive will expand to also cover agglomerations from 1000 inhabitants up. Here, Mr. Sponar notes that according to the available information, this can be achieved mostly by optimizing existing facilities. Reinforced standards for nitrogen and phosphorus removal will be applied in more areas and in all facilities above 100.000 person equivalents.
- A new emission standard for micropollutants will introduce a risk-based approach, covering large agglomerations first, and smaller facilities in case of present risks. Energy neutrality for the wastewater sector is another important objective of the revision. Energy that is used by the sector should be compensated by renewable energy produced by the sector, starting with efforts on energy efficiency, a field where there is enormous potential, and moving towards energy production from wind, photovoltaics and biogas from sludge.
- The proposed revision also aims at increasing the transparency of the sector as driver for performance improvements, at improved access to sanitation for marginalized groups and at public health measures, not the least virus monitoring of wastewater.

Producer Responsibility – a novel approach

A novel approach will be taken by introducing producer responsibility: Producers and importers of cosmetics and pharma products will be called to cover the additional costs for micropollutant treatment in wastewater facilities, contributing to a fund managed by producer responsibility organizations – an approach already proven to work in solid waste management.

The proposed changes will produce total costs of 3,8 billion Euros per year with the cost/benefit analysis promising benefits higher than the costs in every single member state of the Union, and costs covered by moderate tariff raises, producer responsibility, and affordable contributions from public budgets.

The revision is currently being discussed in the European Commission and the European Parliament, with their positions expected to be published in the coming weeks. Mr. Sponar reports positive reactions from member states and, being realistic about the challenges the revision poses, expects compromises about acceptable deadlines and technical standards.

Moderator Raimund Mair then invited three panelists to comment on Michel Sponars presentation. First to take the stage was Sanja Barbalic, Head of the Water Management Institute at Croatian Waters.

Back to the drawing board?

Looking back on rich experience with the implementation of the EU Water Framework Directive, Ms Barbalic raised a number of questions from the perspective of those who will be in charge of planning the implementation on a national level. She pointed to the shift in understanding of basic measures and supplementary measures as defined in the EU WFD, noting that with the proposed recast of the UWWTD supplementary measures become basic measures and wastewater treatment for small agglomerations will become mandatory, independent of cost effectiveness analyses and water body status, and that this will force a rethinking of national implementation

plans as well as the river basin management plans, making life for countries with low population density especially difficult.

From the perspective of Croatia with 3,9 million inhabitants and, a mere 68 inhabitants per square kilometer, strong depopulation trends in rural regions, and a very high seasonal variation due to booming tourism, Ms Barbalic pondered the merits of a multi-speed or variable geometry Europe, a concept she herself dislikes but feels worthy of discussion in this context.

Changes of plans – changes to statistics?

She also pointed to the impacts on the statistics underlying the national implementation plans: “Most countries already have made their national implementation plans and meet the reporting requirements. My concern is that in 2018, Croatia identified 747 agglomerations, out of which 260 were larger than 2000 population equivalents. Applying the new 2021 census, we are down to 245 agglomerations with over 2000 pe, 143 agglomerations between 1000 and 2000 pe and 359 of those smaller than 1000 pe. Will we have to extend our implementation plan for basic measures to 50% more agglomerations? Can we keep in the track of what was going on during this period of implementation or do we have to redefine all our agglomerations and lose connection with the reporting history? Especially because some thresholds in the new directive are a little bit different, and comparisons between data from the old and the new implementation plans could be very complicated.”

Ms. Barbalic also pointed to the lack of manpower and laboratory capacity for additional substance screenings and quality monitoring, to the impact on operation costs for facilities, and the manpower needed to manage the projects related to the transition processes in the facilities. “Small countries will need some time to adjust”, she notes, adding that the recast of the directive will remain a hot topic for a very long time.”

Additional challenges for a candidate state

Next on the stage, Enkelejda Gjinali of the Polytechnic University of Tirana, Albania, presented the perspective of a candidate state. Having entered formal membership negotiations last year, Albania consequently is currently finalizing the first two directive-specific implementation plans for the Drinking Water Directive and Urban Wastewater Treatment Directive, based on the currently valid criteria. Ms. Gjinali reported that 18 sensitive areas have been delineated within the seven river basins of Albania. 165 agglomerations have been identified in which about 2/3 of the population of Albania are currently living. 81 of the total wastewater loads from those 165 agglomerations is collected, and 114 wastewater treatment plants will be installed by 2050. By that time, sludge production will have increased from currently 8 tons dry solids to 40.000 tons. A national plan to manage sewage sludge is in the final stages of preparation. 2,3 billion Euros will be needed to fully implement the current Urban Wastewater Treatment Directive in Albania. The revised directive will present considerable additional challenges.

Ms Gjinali points to the rainwater management: “This proposed intervention really helps a lot because recent studies show that although some of sewer networks were initially designed as separate systems, and because of widely uncontrolled and unplanned development in Albania, they all receive a significant quantity of stormwater now, resulting in widely reported hydraulic undersize of existing pipes, sewage blockages and frequent flooding.”

Regarding nutrients, Ms Gjinali notes that 165 agglomerations will require total treatment capacities of 3,8 million pe, of which almost 60% will require the removal of nutrients, increasing the necessary investment costs, as will the inclusion of micropollutants.

Improved governance is a topic Ms Gjinali likes. She reports that while the sewer networks and treatment plants in Albania are under the responsibility of water utilities, evacuation of stormwater is under the responsibility of municipalities: "We have combined sewers managed by two different institutions that should work together to do a good job, and they are not doing it."

Regarding circular economy, Albania has already taken first tentative steps: Durres wastewater plant, one of the largest facilities in the Balkan area, already produces electricity covering 30% of their energy bill and two more plants serving 100.000 pe each have installed enough photovoltaics to cover their complete energy consumption. Ms Gjinali: "In summary, all proposed changes in the revised UWWTD are homework for Albania, but they are an excellent fundament for leading towards protection of our national resources."

Tight deadlines, rising costs

Finally, Csaba Bauer of Romania's Aquaserv utility company presented the operational perspective, noting that in Romania there is an institutional framework which coagulates 44 regional operators. Every county in Romania has a regional operator, and those are the main engines of infrastructure development, assessing the situation, preparing financing documents and managing investment projects, and after that, operate the systems.

Mr. Bauer reminded the audience that Romania is in a quite different position compared to Croatia or Albania, having joined the EU in 2007 after a 15-year preparation period spent dealing with treatment plant rehabilitations and sewage system extensions.

From this point of view, Mr. Bauer sees two main issues with the revised directive, one being the very tight deadlines, the other being costs: "We are discussing two kinds of costs here, one being investment costs, and hopefully we will benefit from EU funds here, but we also have to mind operational costs."

Mr. Bauer's company is currently assessing the situation regarding nutrients, micropollutants, and energy neutrality, the latter causing special headaches because some facilities simply do not have the necessary space to install additional anaerobic digestors or solar plants. He notes: "I simply don't see the necessary terrain for all the installations needed to create energy independence."

Towards reasonable compromises

In his reaction to the stated concerns, Michel Sponar reminded the panel of all that had been achieved with the existing directive and the coming revision is based on a country-by-country analysis of the additional investment and operational costs: "The level of challenge will vary from country to country, and there will be a serious discussion in the European parliament about deadlines, and about what is achievable and what isn't, and probably for some countries where the starting position is more complex more time will be required, but we don't want the most challenged countries to drive the whole process. For some countries the proposed deadlines are not problematic at all. We would like to move with these countries and find a compromise that is acceptable for everybody, because if we are not forcing the pace, it would put the implementation at risk."

A look at the opportunities

Closing the webinar on an upbeat note, the panelists added their views of the opportunities that the revised directive will bring. Sanja Barbalic welcomes the opportunity for a heavily tourism-dependent country like Croatia to improve the communication with the population about the value of a healthy environment and functioning infrastructures, to improve energy efficiency, and to improve wastewater treatment and sludge management. She also sees a tremendous opportunity in the proposed producer involvement.

Enkelejda Gjinali is looking forward to her country profiting from the collective experience of decades of implementing environmentally friendly measures, and Csaba Bauer is looking forward to reading the final version of the new Urban Wastewater Treatment Directive, wishing everybody involved “the power to implement it and to be happy with it”.

Further information, including the presentations and recording of the webinar, can be found on our [website](#)!