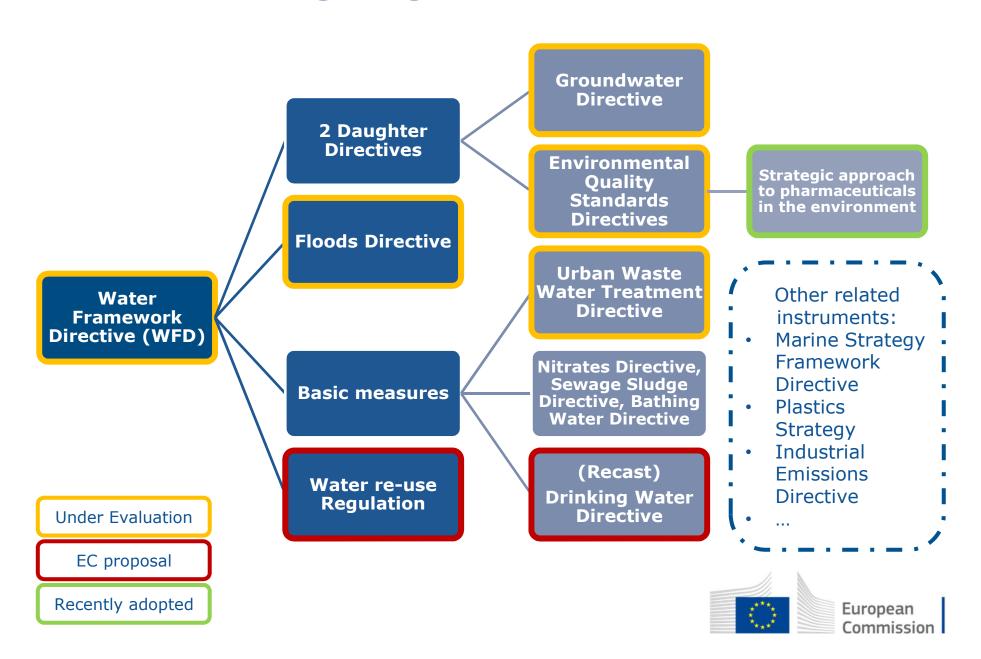


Evaluation of EU water policies

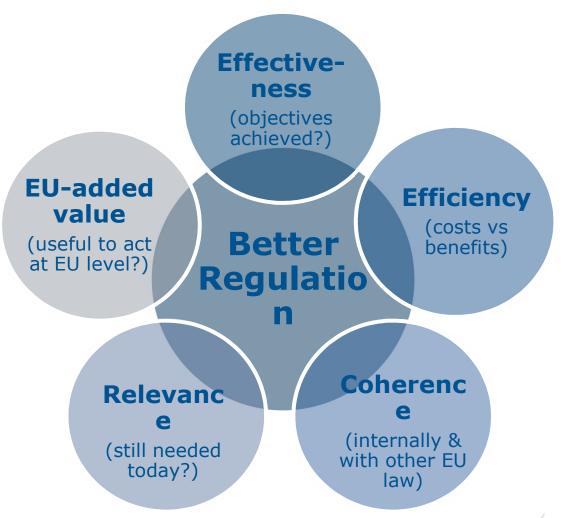
ESSP Workshop
Waste water phosphorus removal tomorrow: ambitions and reality
Liege- October 9th 2019

Trudy Higgins, Marine Environment and Water Industry Unit, Directorate General for Environment

What is ongoing in the water area?



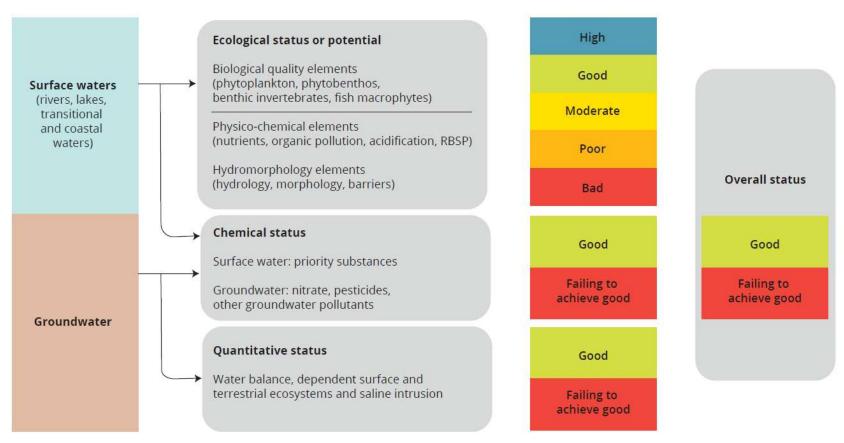
Better Regulation What has worked and what has not?





Water Framework Directive

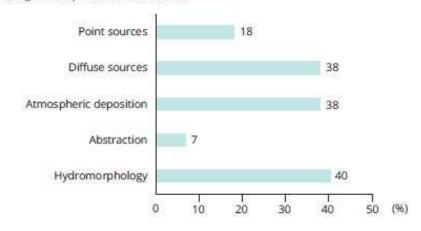
- July 2018: State of European Waters (EEA report)
- Feb. 2019: Assessment of Member States' implementation (EC report)
- Upcoming: Fitness Check of WFD (future EC report)



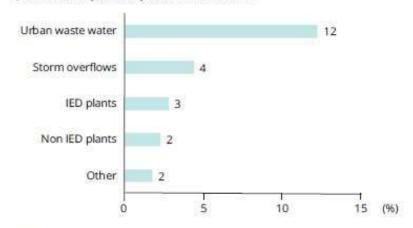


WFD: 2nd RBMP Summary reporting

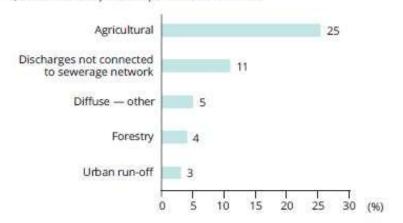
a) Significant pressures 2nd RBMPs



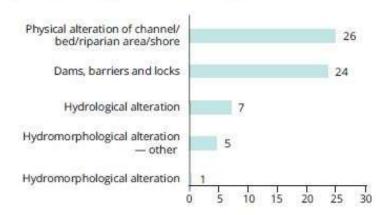
b) Point source pollution pressures 2nd RBMPs



c) Diffuse source pollution pressures 2nd RBMPs



d) Hydromorphological pressures 2nd RBMPs



Proportion of water bodies with specific pressures; for example, point sources affect 18 % of water bodies, and the main point source pressure is discharges from urban waste water treatment plants, which affect 12 % of all surface water bodies. A water body may be affected by more than one pressure; therefore, the sum of percentages is greater than 100 %. IED plants are industrial emissions covered by the Industrial Emissions Directive (EC, 2018e).

Source: Results are based on WISE-SoW database including data from 25 Member States (EU-28 except Greece, Ireland and Lithuania).

Surface water bodies: Significant pressures.

Fit for the Future? What our Fitness Check tells us:

- Water deterioration halted
- Only 40% of surface water bodies and 74% of groundwater bodies in good status
- Significant progress in reducing pressures
- Better monitoring, more transparent information
- More integrated water management in place
- Significant investments made

- Slower progress than expected (2027 just over 7 years away)
- Long-standing problems: agriculture, hydromorphology, persistent chemicals
 - Uneven implementation, uneven monitoring
- New problems: pharmaceuticals, microplastics, climate change
- The price for water is still not 'right'

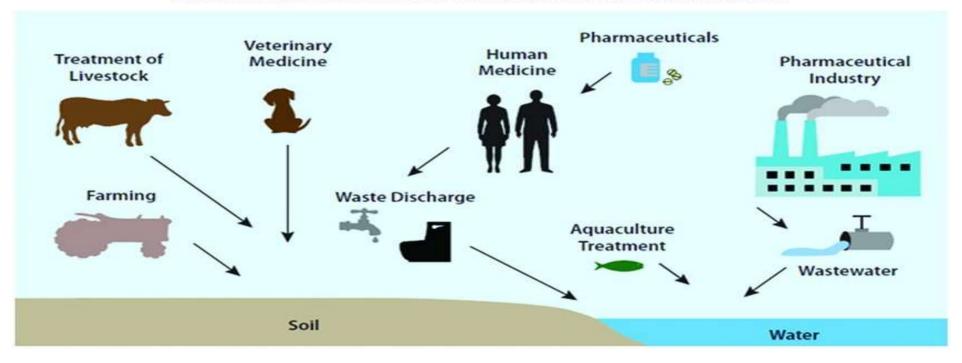
European

 Legislation could be more efficient



Strategic approach to Pharmaceuticals: Pathways to the environment

SOURCES AND PATHWAYS OF ANTIBIOTICS IN THE ENVIRONMENT







Strategic approach to Pharmaceuticals: Key proposed actions

- Increase awareness and promote prudent use of pharmaceuticals
- Support development of pharmaceuticals intrinsically less harmful for the environment and promote greener manufacturing
- Improve environmental risk assessment and its review
- Reduce wastage and improve the management of waste
- Expand environmental monitoring
- Fill other knowledge gaps



Current Urban Waste Water Directive

Objective: "Protection of the environment from the adverse effects of the discharges of untreated waste water"

Collection

Agglomerations > 2000 population equivalent (p.e.)

Alternative: Individual and other appropriate systems

Treatment

Secondary treatment = minimum

Agglomerations >
10 000 population
equivalent (p.e.)
discharging into sensitive
areas provided with
More Stringent Treatment

Monitoring and reporting

Performance of treatment plants

Biennial reporting to EC



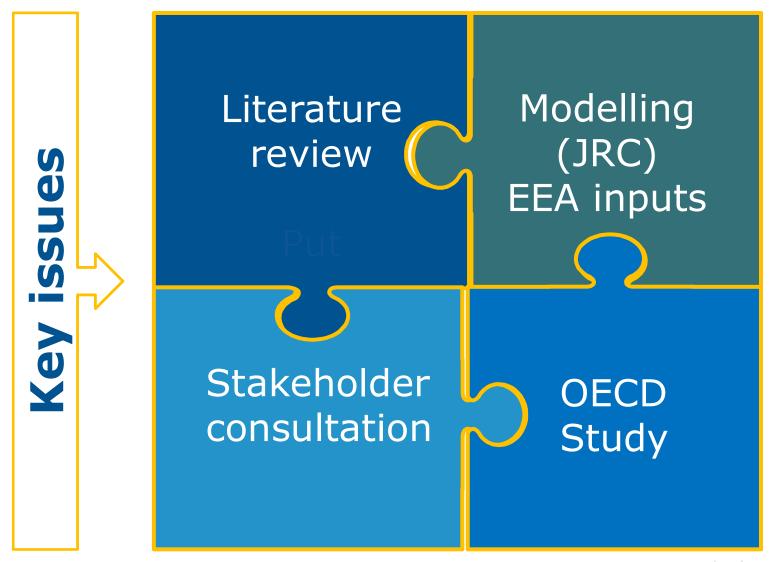
UWWTD Implementation

Compliance rates	Article 3 (collection)	Article 4 (secondary treatment)	Article 5 (more stringent treatment)
EU 15	99%	91%	91%
EU 13	76%	73%	66%
EU 28	95%	88%	86%
Distance to target	Collection	Secondary treatment	More stringent treatment
EU 15	0%	6%	5%
EU 13	6%	10%	15%
EU 28	1%	6%	7%

Source: 10th EU report on the implementation of the directive, 2016 data – pending publication

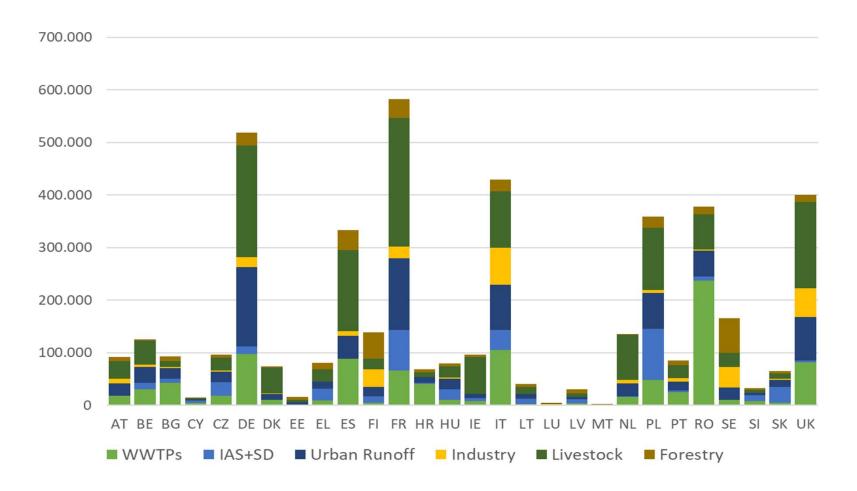


UWWTD: Methodology





UWWTD: In context

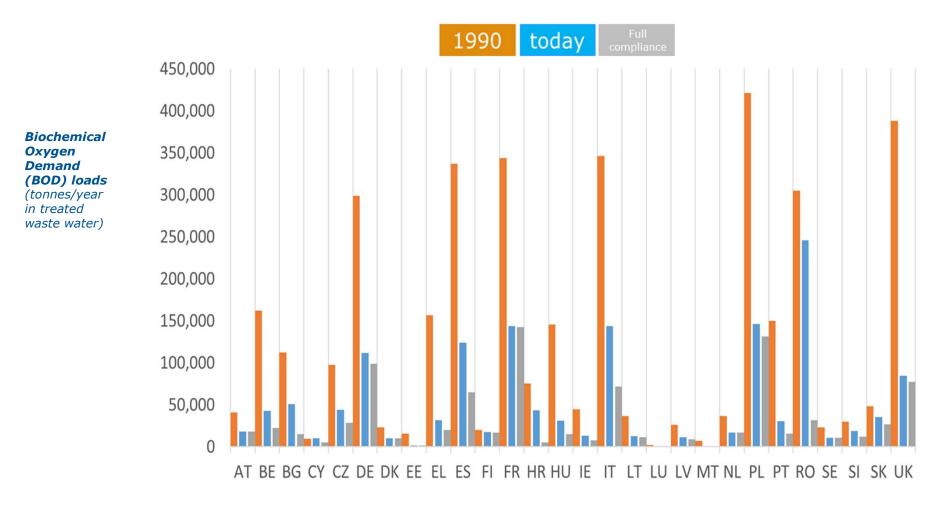


Loads of BOD to EU water bodies

(tonnes/year) by source in 2014 Source: Vigiak et al., 2019



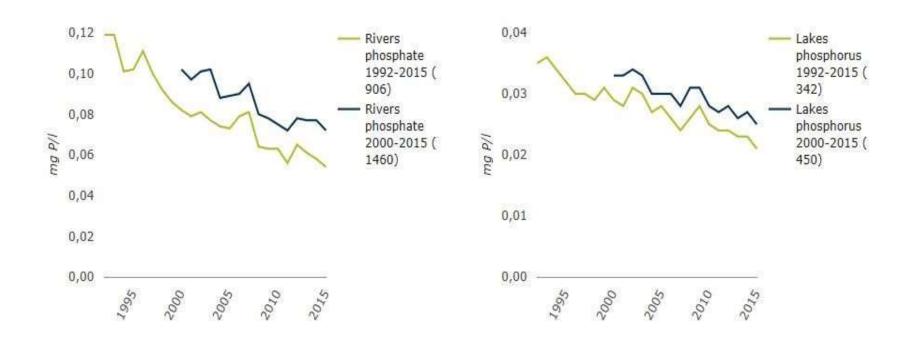
Effectiveness: Since 1991 the UWWTD has delivered



Source: JRC Science for Policy, forthcoming



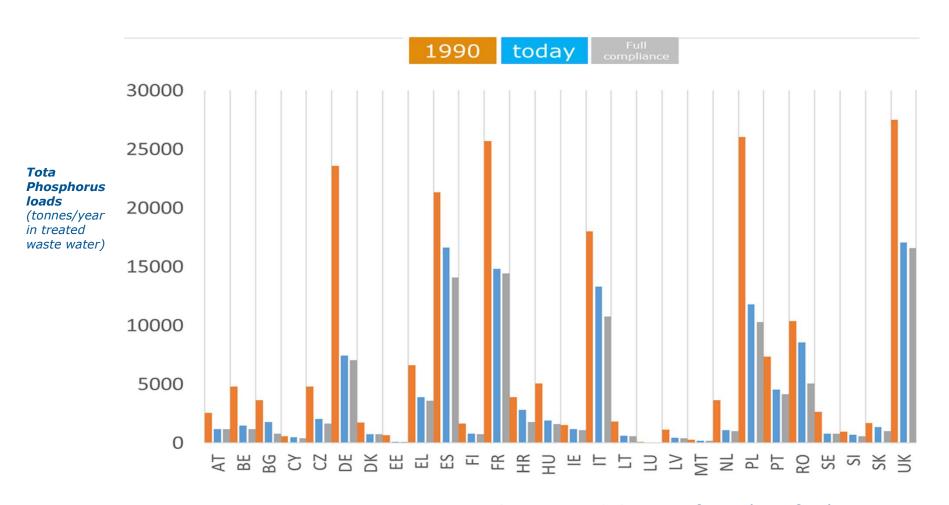
UWWTD: Effectiveness



Phosphorus in selected European monitoring stations. (annual mean concentrations, based on monitored data) Source: EEA, 2019



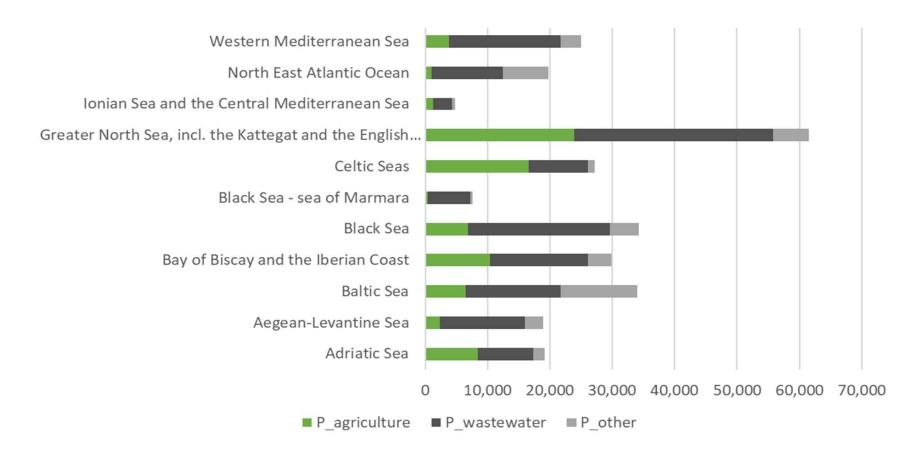
Effectiveness: Since 1991 the UWWTD has delivered



Source: JRC Science for Policy, forthcoming



UWWTD: Contextualisation



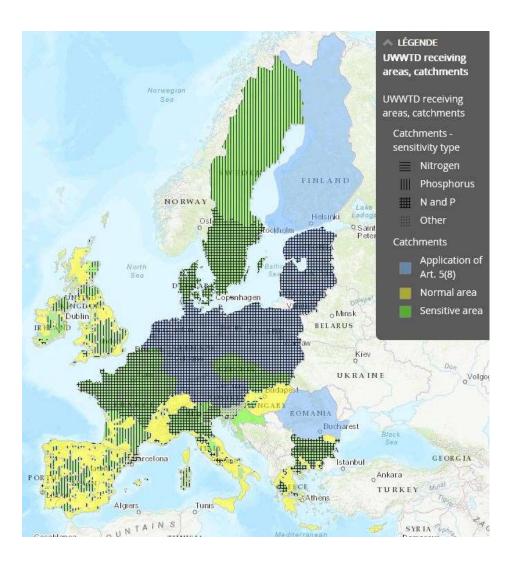
Loads of P to EU regional seas, by source

(tonnes/year in 2014)

Source: JRC Science for Policy, forthcoming



UWWTD: Effectiveness - Sensitive areas

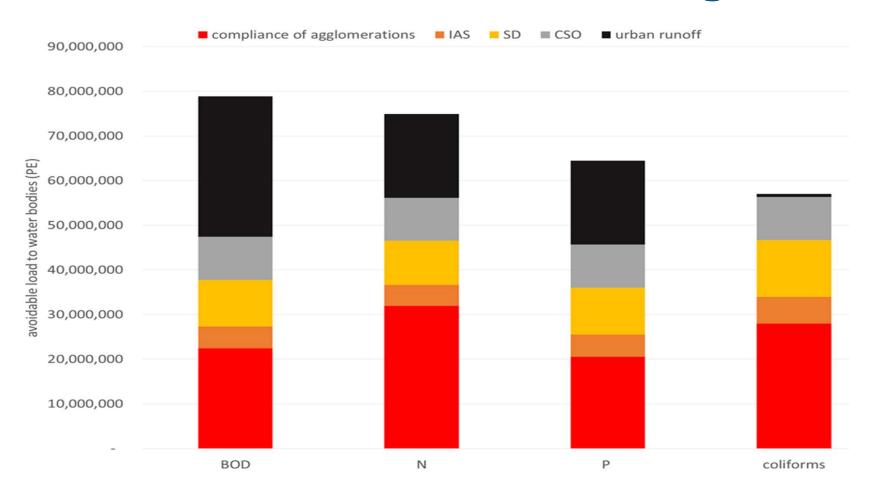


Designated sensitive areas across the EU and Switzerland

Source: EEA (n.d.) <u>Urban waste water</u> <u>treatment map - sensitivity type</u>



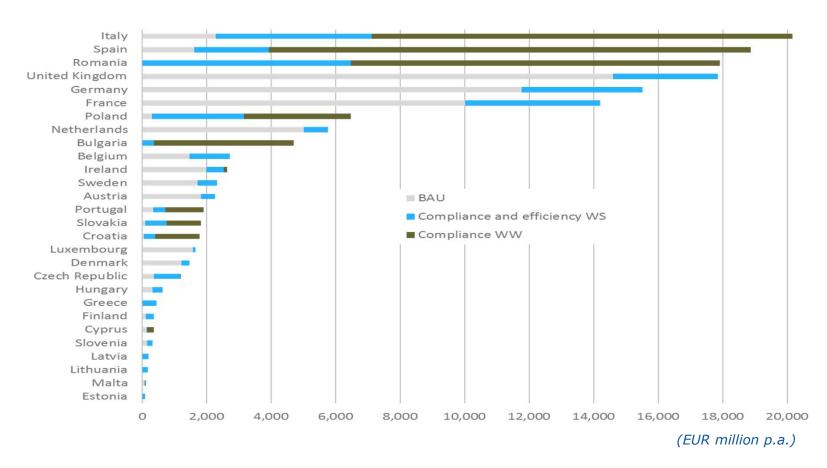
UWWTD Effectiveness: Remaining loads



Possible avoidable loads estimated to waterbodiesSource: JRC (forthcoming)



UWWTD: Effectiveness investment requirements



Projected expenditures to 2030 for water supply and sanitation Source: OECD forthcoming – draft findings, based on European Commission and Eurostat data.



UWWTD: Coherence

Internal coherence:

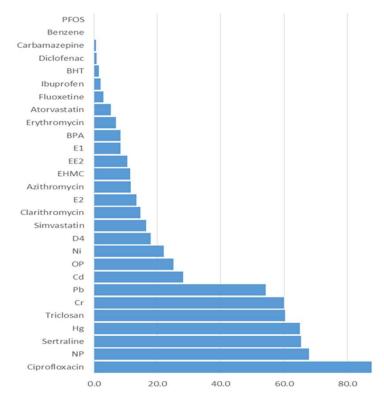
- Few unclear terms and definitions
- 1 diverging threshold
- No link to Annex ID in Art. 4 and 5

External coherence:

- •Overall good coherence with WFD, MFSD, BWD, DWD, ND, SSD, FD
- Some potential minor issues with IED and E-PRTR
- Potential for further alignment with energy/climate
- •On national levels: urban planning & procurement issues

UWWTD: Relevance

- Contaminants of emerging concern (CEC), such as pharmaceuticals and microplastics
- Anti-Microbial Resistance (AMR)
- Circular economy
- Energy consumption
- Contributes to reaching
 SDG 6
- Supporting innovation in the water sector



Modelled % of pollutant load incoming to a WWTP, which is retained in sludge, based on the assumed properties of chemicals





UWWTD: EU added value

- Citizens benefit from the same level of human health and environmental protection
- Urban waste water is addressed across
 the EU => downstream action not
 jeopardised by upstream inaction
- Access to **EU level funding** => improving the situation without endangering affordability
- Waste water service and technology companies competing on the same basis







UWWTD: In summary

- **Directive has delivered** high level of implementation, reduction of loads from targeted sources, improvements of aquatic environment
- Benefits higher than costs
- UWWTD was one of the first regulating pollutants releases (1991) =>high level of coherence with subsequent legislation
- Remains relevant and EU added value is clear domestic/urban pollution will continue and has to be treated at the level of basins supported by EU legislation

UWWTD challenges

- **Remaining sources** full implementation, overflows, IAS, smaller agglomerations
- Pharmaceuticals, micro-plastics and sludge management
- Investments needs, re-investments needs, planning and affordability
- Energy use, sludge management/circular economy/ precautionary principle



Thank you for your attention!

