

Clean & Circular Water

Fostering healthier cities and regions

7 June 14:00 – 15:30

EU GREEN WEEK 2021 PARTNER EVENT

ZERO #EUGreenWeek
POLLUTION
for healthier people and planet



Local & Regional
Europe



Introduction

Moderation: Tamsin Rose, Senior Fellow, Friends of Europe



How much do you know about water legislative framework ?

21 



I'm an expert - ask me anything!

 5%

I know a bit - tell me something I don't know!

 62%

I'm a newcomer - tell me everything!

 33%

Agenda

- **Introductory remarks**

Oriana Romano (keynote speaker), Head of Unit, Water Governance and Circular Economy, OECD

- **Panel discussion**

Marieke Schouten, Alderman of the municipality of Nieuwegein and member of the Committee of the Regions

Filippe Araujo, Vice-Mayor of the city of Porto and Chair of the Environment Forum of Eurocities

Carla Chiaretti, Head of Policy, EurEAU

Nele-Frederike Rosenstock, Directorate-General for Environment (DG ENV), European Commission

- **Q&A**

- **Concluding remarks**

Sari Rautio, Member of the Hämeenlinna City Council and of the Committee of Regions, CEMR Spokesperson on Environment

Introductory Remarks

Oriana Romano Head of Unit, Water Governance and Circular Economy, OECD



Adapting urban water system to address climate change

Marieke Schouten, Alderman of the municipality of Nieuwegein and member of the European Committee of the Regions



Urban Circular Water in Porto

Filipe Araújo, Vice-Mayor of Porto
Chair of the Environment Forum of Eurocities



Clean and circular water: an opportunity to foster healthier cities and regions

7 June 2021

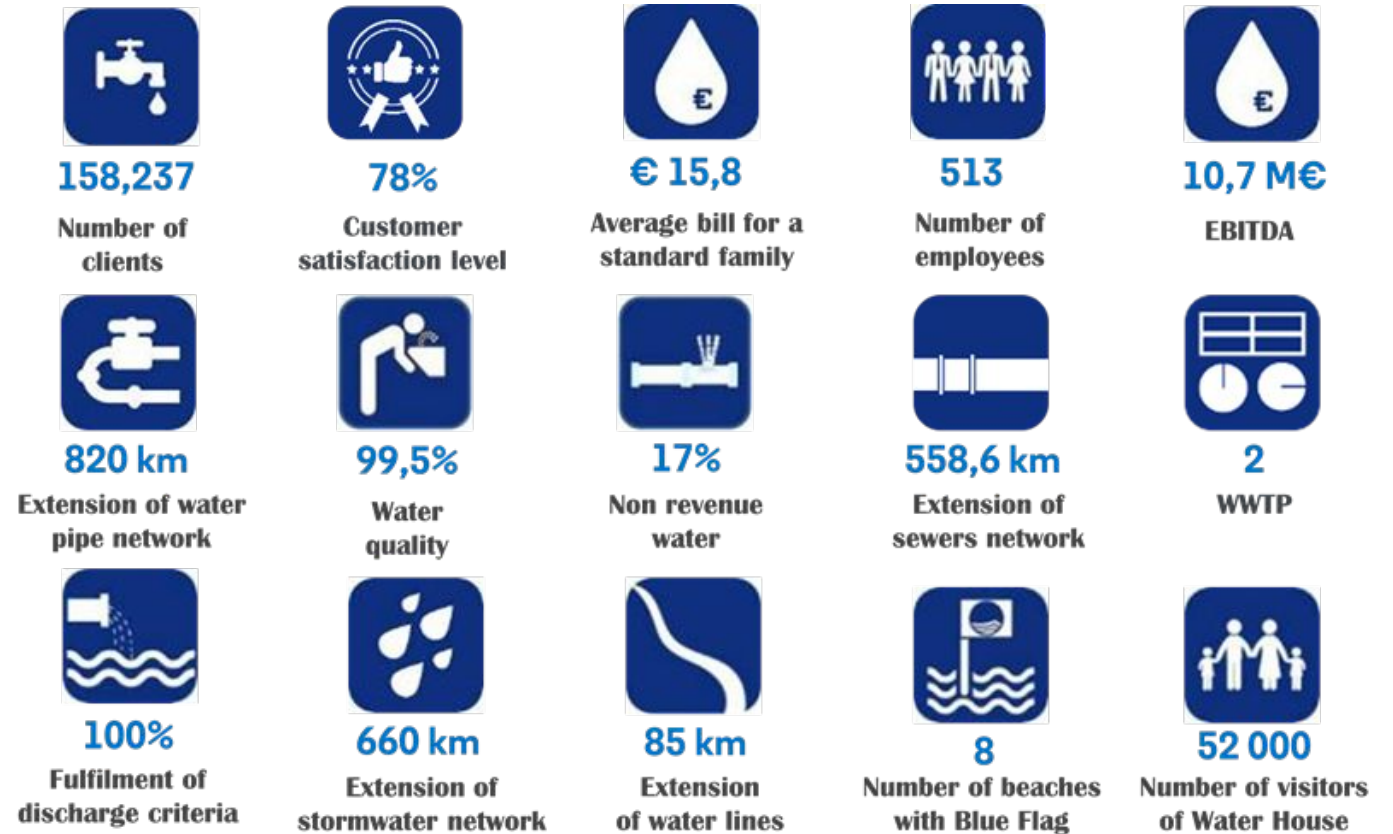
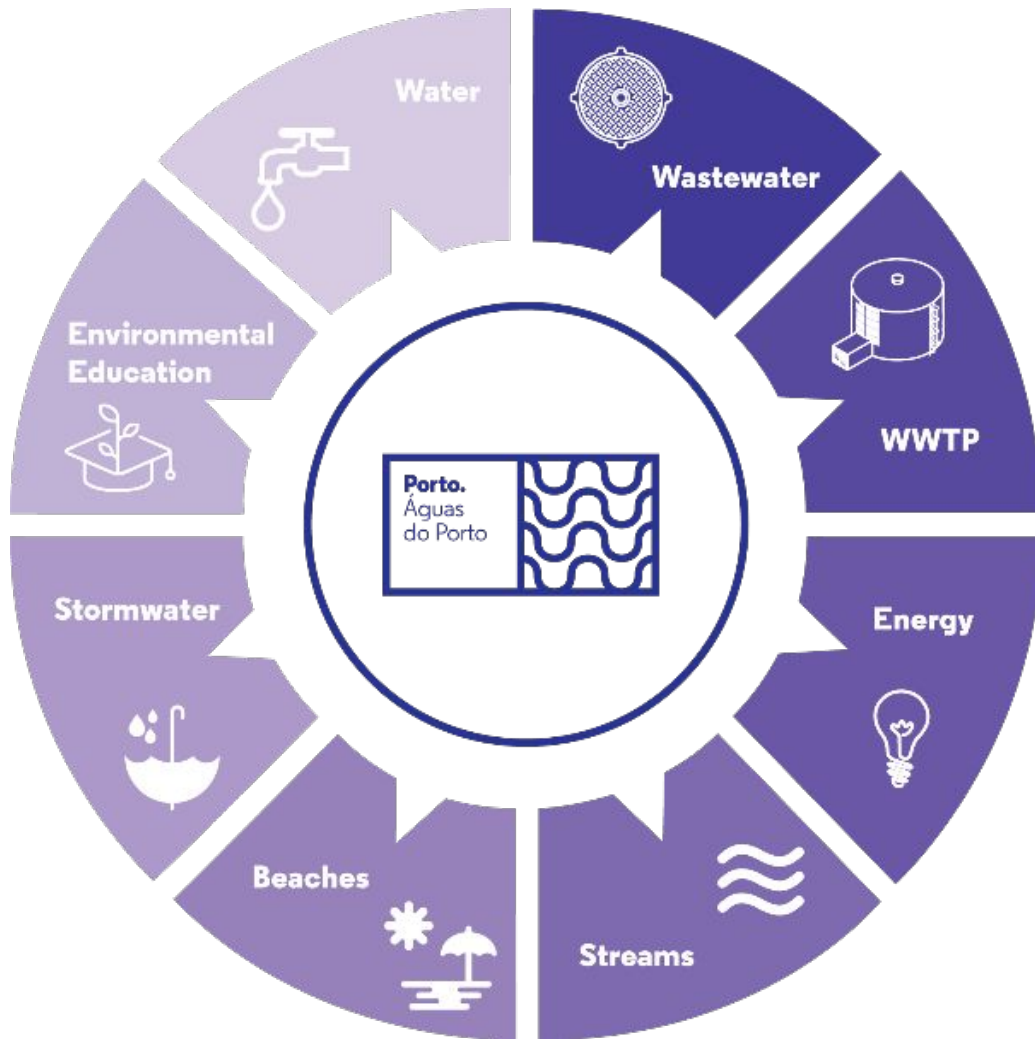


Porto.
A city shaped by water.



Integrated Management of Urban Water Cycle.

:: Our 360° vision. Key figures.



Porto: Becoming a Water Wise City

:: 17 principles grouped into four categories.



- ### 1 Regenerative Water Services
- Replenish waterbodies and their ecosystems
 - Reduce the amount of water and energy used
 - Reuse, recover, recycle
 - Use a systemic approach integrated with other services
 - Increase the modularity of systems and ensure multiple options

- ### 2 Water Sensitive Urban Design
- Enable regenerative water services
 - Design urban spaces to reduce flood risks
 - Enhance liveability with visible water
 - Modify and adapt urban materials to minimise environmental impact

- ### 3 Basin Connected Cities
- Plan to secure water resources and mitigate drought
 - Protect the ecological health of water resources
 - Prepare for extreme events

- ### 4 Water-Wise Communities
- Empowered citizens
 - Professionals aware of water co-benefits
 - Transdisciplinary planning teams
 - Policy makers enabling water-wise action
 - Leaders that engage and engender trust



Source: IWA

Porto Circular Economy Roadmap

:: Priorities for water management by 2030

Porto,
Circular
City in
2030



Priority Axis 2:
Ensuring the availability of natural resources
and the environmental balance

- Reduction of non revenue water
- Energy efficiency in water distribution
- Extension of the smart irrigation network in the green spaces
- Reuse of treated wastewater
- Sewage sludge valorisation in agriculture
- Use of stormwater for non potable uses

Urban Circular Water.

:: Porto WWTP as future resource recovery factories.



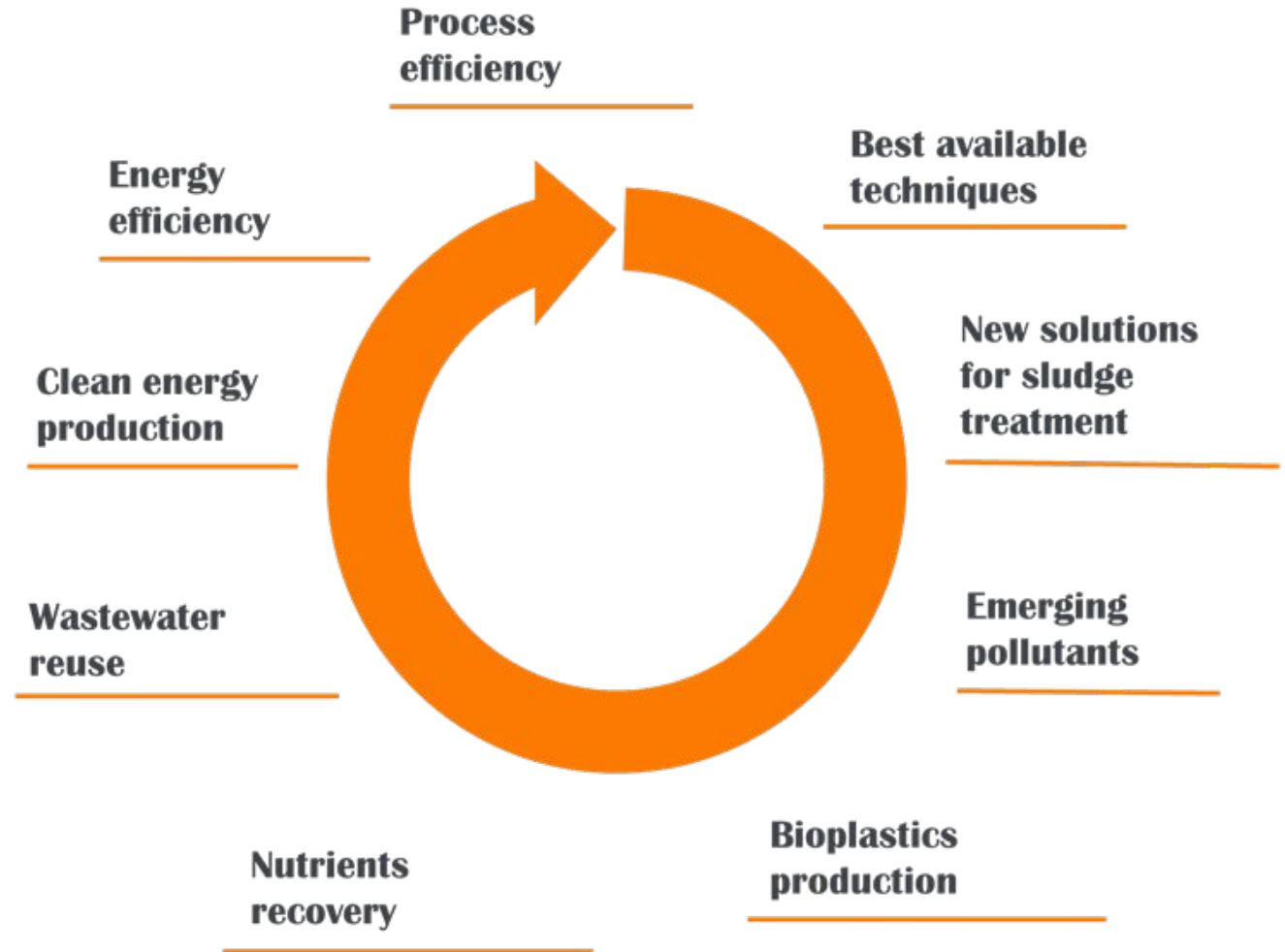
56,614 m³

Daily volume of treated wastewater



100%

Compliance with discharge criteria



Porto Wastewater Treatment Complex.

:: New by-products and resources.

WWTP



Energy consumption:
16,135 MWh/year



Sludge production:
27,000 tons/year



Wastewater discharge:
56,614 m³/day



RESOURCE FACTORIES



Emissions reduction: -20%



Energy production:
17,655 MWh/year of biomethane (or green hydrogen)
70% of self-efficiency



Biocomposite production (sludge):
13 900 tons/year



Incorporation of biowaste:
Up to 7,100 tons/year



Reuse of treated wastewater:
20% to 100%

Thank you



A holistic approach to pharmaceuticals and microplastics in water

Carla Chiaretti – EurEau Head of Policy

Green Week 2021 - Clean and circular water – 7 June 2021



Who we are



- ~ **EurEau** is the **European Federation of Water Services** - 1975
- ~ **34** national organisations of **drinking** and **waste water operators** from **29** European countries
- ~ Both the **public** and **private** sector
- ~ Providing **essential services**: realising the **human right to water** and **sanitation**
- ~ Protecting **public health** and the **environment**



Zero Pollution hierarchy

Union policy on the environment shall be based on the **precautionary principle** and on the principles that **preventive action** should be taken, that environmental damage should as a priority be **rectified at source** and on the **polluter pays principle**.

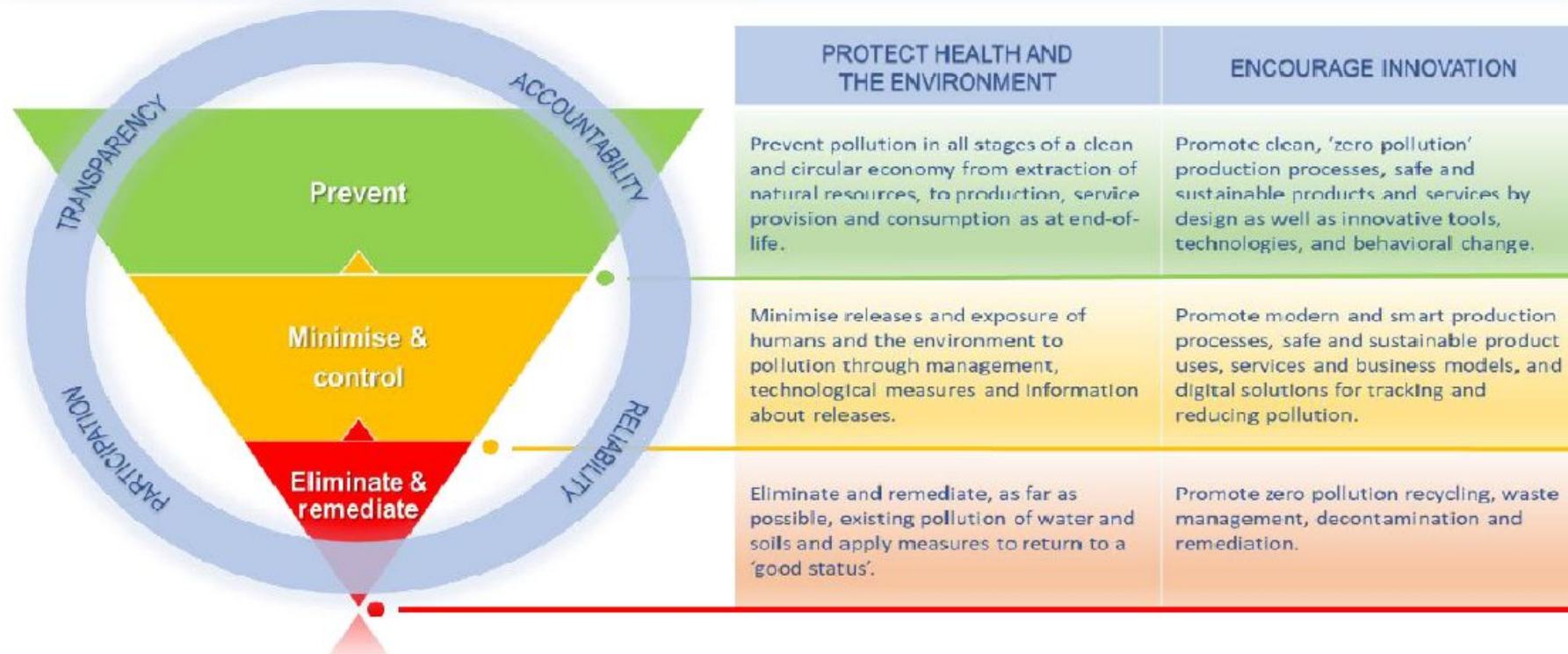


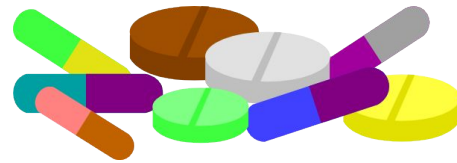
Figure 2: *The zero-pollution hierarchy – reversing the pyramid of action, prioritising the approaches for tackling pollution*

Lack of definition in legal texts: WRR and DWD

Households products: detergents, paints



Pharmaceutical products



Veterinary pharmaceuticals



Dyes and microplastics from textiles



Tyres and Road wear particles



Cosmetics



Pesticides Biocides

Microplastics

- ~ Lack of definition but analytical method to measure microplastics to be established in DWD
- ~ Microplastics could be included in the DWD Watch List
- ~ Conventional WWTPs can efficiently remove up to **80-95%** of microplastics -> reaching **99%**
- ~ **Source control measures** remain fundamental:
 - ~ To minimise the risks of microplastics spills from overflows
 - ~ To promote a true Circular Economy for sewage sludge

Micropollutants



- ~ Advanced treatment processes exist, but:
 - ~ removal rate vary (0-99%), depending on substances and treatment technologies
 - ~ often substance-specific: no one off-the-shelf-solution for removing all (ozone, activated carbon)
 - ~ energy intensive – consumption increases up to 60%
 - ~ more expensive - treatment costs may increase by 50%, the water bill by 20-30%
- ~ Treatment may generate hazardous transformation products -> disposal?
- ~ Sewage sludge + reclaimed water: circular economy
- ~ To be considered as **complementary** and **as means of last resort**

Recommendations

- ~ A **life cycle approach** to micropollutants when legislating
- ~ **Water resources protection** objectives mainstreamed in other policies
- ~ **Control at source** must be the **starting point**
- ~ Mitigation measures at other levels must be based on **cost-benefit analysis**
- ~ The **polluter-pays** principle - and **NOT** the “consumer-pays” principle - must be applied (EPR)
- ~ Use the **ecolabel** more extensively

Thank you for your attention

EurEau. Water Matters.

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Making the EU legislation waterproof

Nele-Frederike Rosenstock, Directorate-General for Environment (DG ENV), European Commission

European
Commission

Revision of the Urban Waste Water Treatment Directive



**Clean and circular water:
an opportunity to foster healthier cities and regions**

07/06/2021



The zero pollution vision for 2050

“Air, water and soil pollution is reduced to **levels no longer considered harmful to health and natural ecosystems** and that **respect the boundaries our planet can cope with**, thus creating a toxic-free environment.”

Starting point: results of the Evaluation

Lessons learnt

Effective tool – Tangible impacts

Simple and targeted instrument

Carrot and stick

Benefits >>> costs

Room for improvement

Remaining pollution

Eutrophication

Energy use, sludge management

Governance –transparency/reporting

Coherence with other legislation

Preliminary ideas for policy measures*

Remaining pollution

- Integrated management plans for collecting systems
- EU standards/ Objectives for SWOs, small agglomerations, IAS
- Risk-based approach with derogations

Coherence with other legislation

- Nutrients**
 - "Pre-designated" sensitive areas
 - Stricter standards (N&P) to support meeting WFD objective
 - Risk-based approach with derogations
- Industrial discharges**
 - Pre-treatment
 - Permits for Small & Medium Enterprises

New pollution

- EU thresholds for performance indicator substances for large UWWTPs
- "Hot spot" approach
- Application of Extended Producer Responsibility

Fit for the future

- Energy**
 - Energy audits + reduction targets + production?
 - GHG targets
- Sludge & water reuse**
 - Track & tracing sludge for agriculture
 - phosphorus recovery
 - Foster water reuse

Governance

- Planning obligations
- Reasonable deadlines
- Updated monitoring
- Reporting via national datasets
- Transparency

How to contribute?

Type	Topic // Result	Time
Roadmap	<ul style="list-style-type: none"> • Roadmap for impact assessment displaying first ideas for revision 	July-September 2020
Conference with DE	<ul style="list-style-type: none"> • Nutrients and micropollutants 	October 2020 (summaries and ppts available on CIRCABC)
Speed dates	<ul style="list-style-type: none"> • Targeted input on draft ideas 	October 2020
Technical workshops*	<ul style="list-style-type: none"> • Joint EEA-ENV reporting workshop • Joint sludge and waste water in the circular economy and climate change • Costs and benefits 	March-May 2020 (summaries and ppts available on CIRCABC)
Ongoing and upcoming stakeholder consultations		
Open public consultation	All topics // measures Contribute here: Have your say!	28 April -21 July 2021
Technical workshop	Integrated sewer management (<i>May TBC</i>)	22 June 2021
Stakeholder conference	Preliminary findings of impact assessment	October 2021

If interested to join, please contact: ENV-URBAN-WASTE-WATER@ec.europa.eu

Thank you

Links for further information

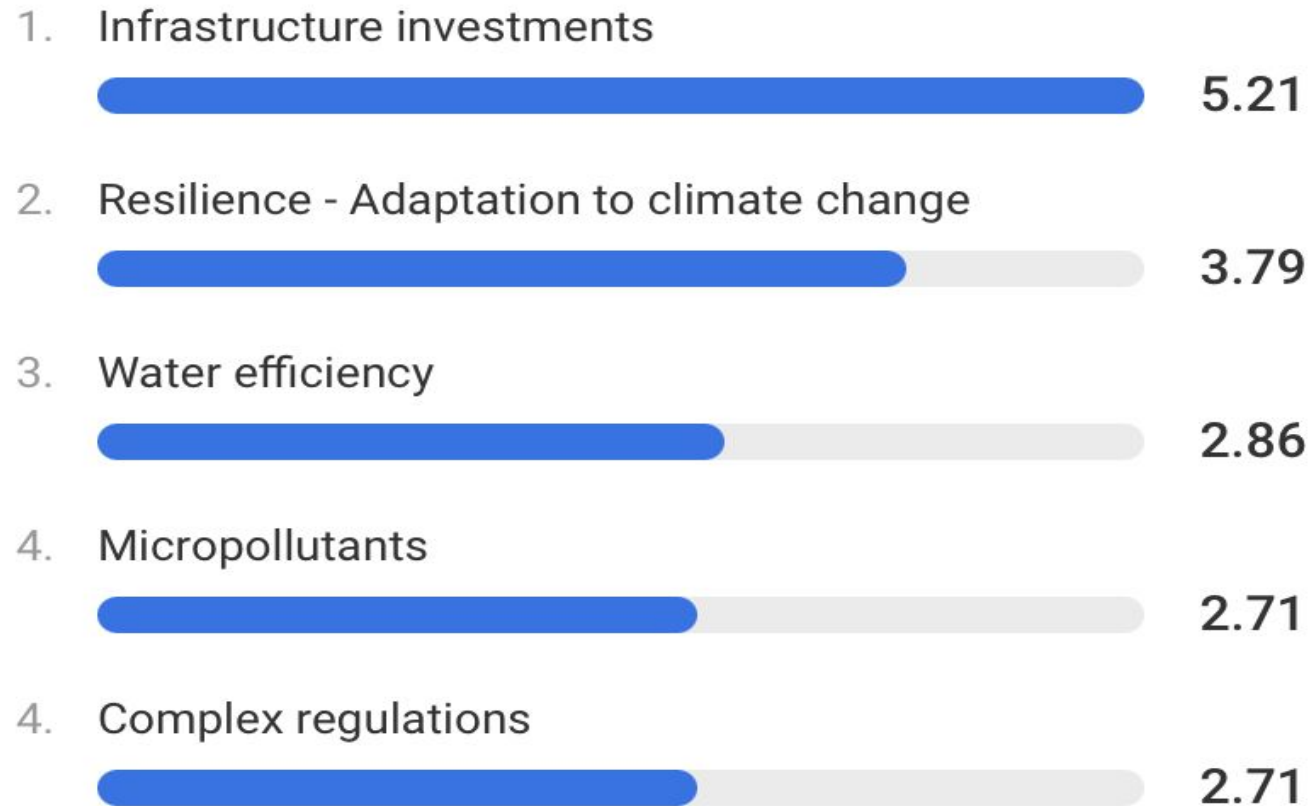
- **Urban Waste Water Treatment Directive (1991):**
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31991L0271>
- **Website for the UWWTD review:**
https://ec.europa.eu/environment/water/water-urbanwaste/evaluation/index_en.htm
 - **Including information about stakeholder consultations:**
<https://ec.europa.eu/environment/water/water-urbanwaste/pdf/UWWTD%20IA%20consultation%20strategy%20final.pdf>
- **Evaluation of the Directive (2019):**
<https://ec.europa.eu/environment/water/water-urbanwaste/pdf/UWWTD%20Evaluation%20SWD%20448-701%20web.pdf>
- **Roadmap for the launch of the Impact Assessment of the Directive (2020):**
<https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12405-Revision-of-the-Urban-Wastewater-Treatment-Directive>
- **Joint Research Centre Modelling Report supporting the Evaluation (2019):**
https://ec.europa.eu/environment/water/water-urbanwaste/pdf/Evaluative%20study_final
- **OECD study on investment needs + Member State factsheets (2020):**
https://ec.europa.eu/environment/water/water-framework/economics/OECD_study_en.htm

Discussion





How would you rank the following challenges regarding water management, from the top priority to the least relevant?



Concluding remarks

Sari Rautio, Member of the Hämeenlinna City Council and of the European Committee of regions and CEMR spokesperson on Environment

