Challenges for the implementation of the Water Framework Directive in Portugal

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Water Framework Directive and National Water Law

APA responsibilities:

Water
Coast protection
Air Quality
Noise
Waste management
Chemistry products
Climate
Environmental Evaluation
Environmental Licencing
Environmental hazards
Sustainable development
Public participation

Water resources management:
(5 vector of management)

Planning
Monitoring
Permits
Supervision
Protection measures

Water resources territory:
(5 water basin district)

Water resources shared:
(5 international water basin)

Consumptive uses in Portugal
6 000 hm³
74% Agriculture
14% Urban
11% Industrial

Portugal depends on 50% of water resources from Spain
WFD and River Basin Management Plans in Portugal (RBMPs)

River Basin Management Plans in Portugal (the diagnosis for the 3th cycle)

Water bodies global status – Good or better

- Surface water
- Groundwater

Actual climate and water resources context:
- Temperature rise
- Precipitations loss
- Water scarcity
- Increased demand
- Efficiency of water use
- Water desalination
- Water reuse

August 2023

Anomalies of the amount of annual precipitation

Last 20 years precipitation REDUCED 20-30%
River Basin Management Plans in Portugal (diagnostic for the 3th cycle)

Propose

- 825 measures
- 614 M€

Water bodies global status – Good or better

455 are Urban Wastewater Measures

- Wastewater Collection
- Wastewater Treatment
- Sensitive Areas
- Monitoring and Reporting:
- Implementation and Enforcement

The UWWTD has significantly improved the quality of water resources, with:

- Creation of the services regulator – ERSAR
- Partnership between the state and municipalities
- Restructuring of water supply and sanitation services
- Investment of 13.000€
Other policies

Combined approach for the Wastewater discharges permits - WFD Article 10

"Fit for propose” instead “Fit-for-all”

Combined approach by establishing and implementing appropriate emission limit values (ELVs), differentiated for the dry period and the wet period of the year and also for exceptional conditions.

Water Reused

The Portuguese Environment Agency developed a guideline with procedures and guidance for

- Permitting process
- Health and environmental risk assessment
- Selection of barriers and measures control
- Monitoring programs
- Signage

River Restoration Strategy with Nature Based Solutions

From 2017

- 1.230 km rivers courses restored
- 70 M€ invested
- 120 Municipalities included
Urban Wastewater Treatment Directive (UWWTD)

UWWTD recast


1. Elimination of the possibility of designating less sensitive areas,

2. Obligation for all urban wastewater discharges from agglomerations equal to or above 100,000 e.p. to undergo tertiary treatment (nitrogen and phosphorus removal, with emission limit values of 6 and 0.5 mg/L, respectively) and quaternary treatment (micropollutant removal) by the end of 2035.

3. The same obligation is imposed for agglomerations between 10,000 and 100,000 e.p. discharging into sensitive or eutrophication risk areas by 2040.

Portuguese approach (as shown by the IMPEL - WiNE study)

Consider that:

The expected deadline might impact on the sustainability of the system and not ensure a balanced cost-benefit ratio.

Relying solely on the wastewater load might not be enough to improve water quality and could lead to high costs without significant benefits.

Removing nutrients can cause negative environmental effects, such as increased energy use and chemical production. Additionally, using chemical fertilizers for nutrient reuse in agriculture may be necessary.

The control of discharges under the WFD Article 10 involves setting appropriate emission limit values (ELVs) using a combined approach.

Propose:

Portugal presented a position outlining a methodology for the risk assessment and management of the environment and human health. They used a multi-criteria analysis to determine suitable treatments for urban wastewater discharge, ensuring environmental goals are met for water bodies.
The Water Resource Tax base is made up of the sum of its six components, namely:

$$TRH = A + E + I + O + U + S$$

**Component A** - Abstraction of water resource
**Component E** - Discharge on the water resources
**Component I** - Sediment extraction
**Component O** - Occupation of the water resource territory
**Component U** - Private use of the water subject to public planning and management
**Component S** - Private use for public water supply systems

The average tax annual is about 30M€

**UPDATES**

- Update scarcity coefficients based on the supply and demand balance methodology (WEI+)
- Review reductions to reward efficiency and reuse (Components A, E and U)
- Adapt basic values to National and European reality
Water Management Priorities

- Increase the number of monitored water bodies
- Fill the gaps in assessment methodologies for all required quality elements and for all water categories
- Evaluate current and future water availability
- Determine the Wei+ index for sub-basins in order to apply measures
- Approval and submission of the River Basin Management Plan (3rd Cycle)
- Promote the good state of water bodies
- Increase the Scarcity coefficient of the water resources tax considering the Wei+ index by sub-basin
- Promote water reuse for no potable uses
- Promote water efficiency in all sectors
- Monitoring (quality and quantity)

Developed Drought and Water Scarcity Plans by Hydrographic Regions (The National Plan was approved in 2017 and water efficiency plans for the south of the country developed in 2020)

Increase articulation with Spain in international basins
THANK YOU

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