



Flanders
State of the Art

Flanders approach on Emerging pollutants

EURO-INBO conference, 21/5/2025

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State to play

(what is the situation – data from environmental reports)

State of water, and insights on chemical pollution

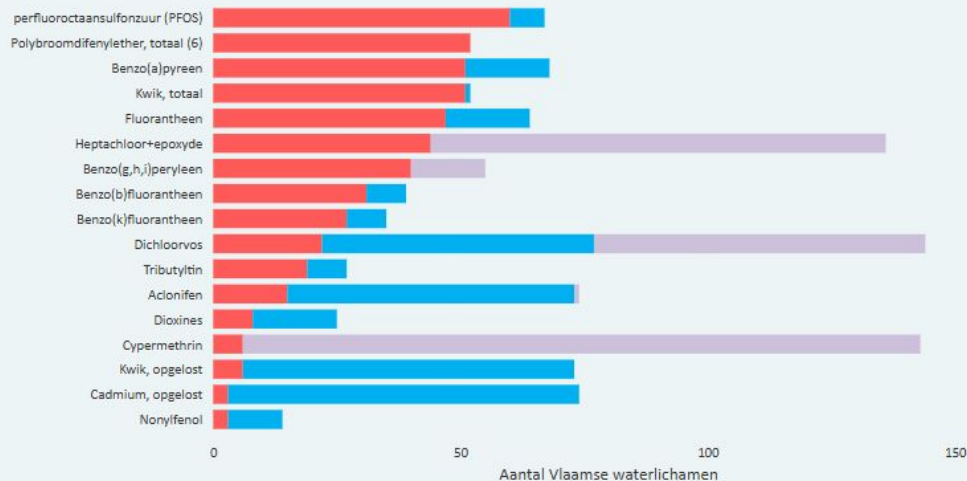
Toestand prioritaire stoffen van de Vlaamse waterlichamen in Vlaanderen

tussentijdse evaluatie 2021

Filter Stroomgebiedsdistrict

Alle

● Niet goed ● Goed ● Onbepaalbaar



- ▶ Case 3M - Zwijndrecht (Antwerp) as 'trigger'





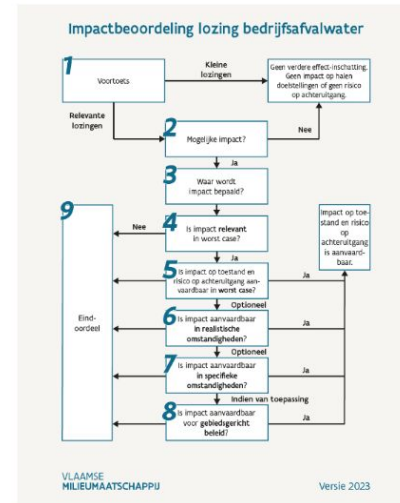
Legal framework

Water Framework Directive

- **Good ecological status SW, good status GW**
- **WFD has double aim**
 - No deterioration of status
 - Improvement of status of waterbody towards good status (including possible exemptions)
- **Both aims are equivalent**
- **Not only at level of river basin management plan**
 - Also to be checked in approval procedure of a (discharge/abstraction) permit, so dangerous substances/emerging substances come into play

Industrial discharges: legally robust permitting

- The Wezer judgment and several subsequent rulings have clarified what is meant by “deterioration of the status” ⇒ very strict interpretation
 - Since 2021: Impact of a discharge into surface water assessed using the Wezer step-by-step plan
 - Adjustment of the step-by-step plan required as a result of the rulings (no deterioration + improvement)
 - RBMP4: approach when less stringent objectives apply, in line with Article 11.5 of the WFD: assess and, if necessary, adjust permits





Policy action on Emerging pollutants

What are Emerging Pollutants?

Pollutants that are not currently included in routine monitoring at the European level but may be candidates for future regulation based on research on their (eco)toxicity, health effects, and environmental monitoring.

Examples:

- Surfactants
- Flame retardants
- Pharmaceuticals and personal care products
- Biocides
- Polar pesticides and their degradation products
- Endocrine-disrupting compounds (EDCs)

The Watch List (WL)

Purpose: Identifying emerging substances for water in Europe



Main goals:

- Collect high-quality EU-wide monitoring data on potential water pollutants
- Determine whether these substances pose a risk to the aquatic environment

Newly added substances in the amendment proposal of the WL for surface water

- Pesticides
- Pharmaceuticals
- Sunscreen agenten
- Antioxidants used in tires

Surface water : WL is mandatory

Groundwater: proposal to make the voluntary WL mandatory

From PBT to PMT

In the past, European regulations mainly focused on PBT substances (Persistent, Bioaccumulative and Toxic). Today, focus goes more and more to PMT substances (Persistent, Mobile and Toxic)

PMT substances:

- New hazard class under the CLP legislation
- Polar, watersoluble substances
- Migrate easily to groundwater
- Hard to remove from drinking water with classic wastewater treatment techniques
- More and more emerging pollutants are PMT

Recent examples : benzotriazoles and short chain PFAS (TFA) in drinking water

PFAS Action Plan

- Following the PFAS crisis in 2021 around the 3M production site in Antwerp
- 50 actions to monitor and regulate PFAS
- **A steppingstone for a broader policy approach to the family of substances of high concern.**



Policy plan for substances of high concern

Purpose: developing an integrated long- term vision for a Flemish policy on PFAS and other substances of high concern.

Goal: By 2025, reducing the contamination of air, water and soil with 'substances of high concern' to a level where only acceptable risks to human health and the environment.

Hub for Substances of High Concern:

A newly established formal network structure between different entities of the Flemish government, centralised around the policy areas responsible for environment and health which must outline an integrated approach to a Flemish policy on PFAS and other substances of high concern.

Monitoring + PFAS in international river basin commissions



International Scheldt Commission

- Homogeneous Monitoring Network of the Scheldt by each partner □ triennial report
- PFAS as a focus point in the triennial report 2017 – 2019 and 2020 – 2022
- Report on sources and loads of PFAS contamination published in 2024
- Workshops PFAS in the Netherlands in 2022 and in the fall of 2025
- Workshop biota monitoring in 2023



International Meuse Commission

- Homogeneous Monitoring Network of the Meuse by each partner □ triennial report
- Inventory of knowledge and data around PFAS in the Meuse river basin published in 2024 by special chemistry project group



Best Available Techniques (BAT) for the treatment of PFAS-containing industrial wastewater and drainage water

Existing techniques in use:

(granular activated carbon, ion exchange resins, membrane-based techniques, incineration)

=> Long-chain PFAS: achievable removal rate below detection limit

=> Short- and ultrashort chain PFAS (PMT): **removal is challenging**

Opportunities for improvement:

- Existing techniques can be further optimized
- Additional techniques show potential for application in Flanders (destruction techniques, foam fractionation...).
- Some techniques still require further research and development

Conclusion:

The treatment of PFAS (and other emerging substances) continues to evolve with ongoing research and optimization of current technologies.

Knowledge Centre for Innovative Remediation Solutions (KIS)

Purpose: accelerate innovation in addressing substances of high concern (e.g., PFAS) in soil, water, and air.

Participants: remediation companies and experts, technology providers, universities & research institutions, government entities

Main goal:

Development, testing, and scaling of remediation techniques via project calls and subsidies for innovative projects

Innovative monitoring methods

Challenge: difficult to develop measurement techniques for each individual emerging PFAS substance.

Example: the PFAS chemical family counts over 6000 substances

Need for Innovative measurement methods:

Use of screening methods in combination with substance-specific measurements:

- Non-target Screening
- Suspect Screening
- Effect-Directed Analysis (Ecotoxicity tests)

**Thank you
for your attention**