Emerging substances in a changing world: the NORMAN vision

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"A Who's Who of pesticides is therefore of concern to us all. If we are going to live so intimately with these chemicals eating and drinking them, taking them into the very marrow of our bones - we had better know something about their nature and their power."

- Rachel Carson, Silent Spring (1969)





They're everywhere. In the cosmetics we use, the food we eat and the homes in which we live. Our daily lives are awash with chemicals. Every year, up to 400 million tonnes are produced and a thousand new substances concocted. Individually, each chemical, used in a minute quantity, may be harmless, but there's growing concern about the combined effect as they accumulate in our bodies.

guardian.co.uk / Guardian News & Media Ltd. 2004

The chemical pollution challenge

Regulated pollutants

Urban run-off Agriculture Wastewater effluent

Oil spills Operational discharges Aquaculture **Emerging pollutants**

Industrial and mining activities Waste dumps

Our ambition

- Independent, transparent and open network working for a sustainable environment without harmful substances
- Go-to organisation for issues on emerging substances in the environment
- Watch-dog and alarm bell for emerging environmental threats
- Bridge between science and policy-making
- Platform for innovative bottom-up initiatives to explore new monitoring challenges

How will we achieve this?

- Development, validation & harmonisation of approaches for the more efficient identification and prioritisation CECs:
 - CEC prioritisation
 - Non-target screening
 - Bioassays & effect-directed analysis (EDA)
 - Passive sampling tools
 - Wastewater reuse
 - Indoor environments



Prioritisation of CECs

- EMPODAT- a prioritisation tool for use by regulators & scientists alike
- Ecotox module- an essential tool for the derivation & harmonisation of predicted no-effect concentrations (PNECs)
- Integration of 'comprehensive' non-target screening techniques & effect-based tools will result in a more robust identification of priority CECs



Non-target screening

- Guidance to facilitate its application in research and regulatory frameworks
- Application for prioritisation, EDA, monitoring & exposure assessment
- An efficient tool to identify new CECs, prioritize, identify the effect causing compounds & routine regular monitoring





Bioassays & Effect-directed analysis (EDA)

- Implementation of effect-based monitoring tools in water quality assessment
- Establish EDA as a standard follow-up if effectbased trigger values are exceeded
- Advance higher-tier EDA in order to enhance its applicability in water management
- Integrate non-target screening and effectbased measurements- virtual EDA





Passive sampling tools

- Harmonised guidelines for use in water & data reporting
- Address lack of temporal representativeness in water body monitoring
- Other environmental matrices & compartments (air, sediments and biota and humans)



Wastewater reuse

- Define and establish a harmonised protocol for antibiotic resistance
- Measure the wastewater footprint in terms of antibiotic resistance
- Build a European database
- Recommendations to the Commission



Indoor environments

- Identify the CECs of concern for the indoor environment
- Data on CECs present indoors in EMPODAT
- Prioritisation of CECs in the indoor environment
- Identification of emissions of CECs and identification of important exposure pathways
- To improve links between policy and science in the field of the indoor environment



Improve Europe-wide collaboration on emerging pollutants and policy-making

Thank you!