# PFAS in Flanders: Innovative monitoring

01 Feb - 04 Feb 2024

Poll results

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Multiple-choice poll

How can we tackle the enormous diversity of chemical substances in the environment, which makes it impossible to quantitatively monitor each substance separately?

Monitoring a selected number of representative parameters as a proxy

16 %

21 %

More focus on analysis of sum parameters

More focus on ecotox analyses

More focus on non-target screening

29 %

33 %

Other

1 %

#### Which environmental matrices should receive more attention in the future with regard to research and/or monitoring?







(1/5)

- Standards
- Lower levels needed
- Griet
- Big data
- Brains (from everyone)
- Standards
- Standards
- Lab capacity
- Scope of what is included
- Forensics
- Standard
- Standard
- Low cost continuous sensing

- Regulatory acceptance
- Speed
- Cost
- Big data
- Semi quantification
- Standards
- Standards
- More sampling
- Standards
- Validated protocols
- Analytical standard methodes
   Skilled technicians Reference
   material

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- Research budgets
- Speed
- Standardisation
- Standadisation
- Realtime online measurements
- Quantitfication
- Artificial intellegence
- Artificial Intelligence
- Reference
- Costs
- Knowledge must be actionable
- Certified reference materials
- Protocols

- FAIR data approach
- Centralising data results
- Online analysis
- Reliability
- Guidance on semi-quantification
- Reference values
- Understanding the data/ ouput
- Validation
- Machine learning
- Regulation
- Standards
- Inspectors
- Higher accuracy





(3/5)

- (Eco)Toxicological information
- Laboratories
- New Methodologies
- Lower Detection limits
- Money
- Analysis require a framework
- More sampling
- Money
- Lab capacity
- Money
- Some kind of threshold levels
- Data
- Standards

- Standardisation
- Presicion
- More sensitivity
- Lower price
- Harmonisation between Labs
- Procedure
- Standardization and more labs offering
- Reduced costs
- Harmonized méthodologies
- Protocols
- Knowledge sharing
- Developping methods







- (4/5)
- Quantitative analysis results of **ALLreport NTA**
- Faster and cheaper
- Standardization
- Reference values!
- Norms
- Framework of standards
- Automatisation
- Clear methods
- Machine learning
- Higher accuracy
- Chemical standards
- Reference database

- Money
- Lower detection limits
- European standard
- Laboratories
- Standards
- Legislative support
- More research
- Data sharing
- 🔹 Data is power 🦐
- Cost and time
- Standards and political will
- Reduced cost
- Reference values



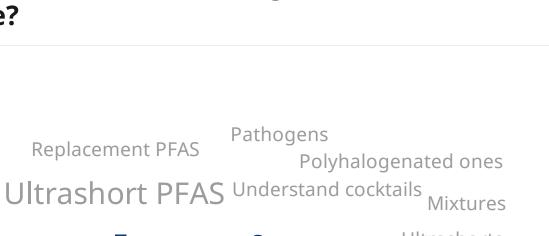
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- (5/5)
- Substance Prioritization
- Standardisation
- Standardisation
- Faster data analysis
- Quantification limit
- Cheaper

Short chain PFAS

### If you could nominate one substance or substance group for future monitoring, which one would that be?



## Organotin Ultrashorts Phenol Triazool Microplastics BFRs PFAS Glyphosate PFBA POP PGESticides Nanoplastics Siloxanes POP TFA APIs Drugs

## **Endocrine disruptors**

Cr VI Medicines Flame retardants Bisphenols

Perfluoropolyethers

PF phosphonic acids



#### What are the arguments for applying human biomonitoring complementary to environmental monitoring networks? (1/5)

- Humans usually care more about things that affect them directly! So to build messages
- Convince politicians to act
- More data for causal AI
- Right Wing politicians at least care about health
- Capture effect on most vulnerable groups
- Risk
- Media catching
- Correlation health and environment
- Create willingness to

take preventative actions

- Correlation
- Exposure assessment
- More active engagement from the public
- Wholistic approach
- Link between environment levels and toxicity
- To learn the interaction
- Understand fate
- Exposure / risk assessments
- Persistent effects on humans
- Measure actual exposure

#### What are the arguments for applying human biomonitoring complementary to environmental monitoring networks? (2/5)



- Environmental Health
- Exppsure
- Global health
- Integrated approach
- Health risks
- Awareness
- One Health
- Griet
- awareness bringing action
- Pollution gets personal
- Risk evaluation exposure
- Effects
- Exposure

- Exposure monitoring at receptor
- Health policies
- Exposure
- Scenario analysis
- Human health
- Risk assessment
- track remedial outcome
- Need huge dataset to prove what impacts are statistically
- Awareness
- Exposure pathways
- Health effects
- More attention to the problem



#### What are the arguments for applying human biomonitoring complementary to environmental monitoring networks? (3/5)

- It's a summary of human exposure
- Better understanding of the effects of environmental pollution
- Direct and indirect exposure pathways for humans
- Knowledge on consumer exposure
- Risk managent
- Health
- Correlation
- Impact
- Cause and effect
- Full understanding

- Understanding the actual exposure effects
- Policy relevance
- Relation with exposure
- Cause effect
- Only useful if tox is known
- Information on Cumulative Exposure
- One level higher in risk evaluation
- Weighted risk assessment
- Risk assessment
- Health effects
- Statistical data



#### What are the arguments for applying human biomonitoring complementary to environmental monitoring networks? (4/5)

- Relevance of need for regulation
- Risk reduction
- Understand source to dose
- True exposure
- Public communication
- Measure effectieve exposure
- Epidemiology
- Health risks
- Prioritizing
- Asses exposure
- One health
- Awareness
- Risk assessment

- integrated measurement
- Effects
- Prevention
- Health impacts
- Cause-effect
- Holistic evaluation of exposures
- Health
- Impact
- Linking spatial variations
- To mesure exposition
- Measure direct effects
- Human health effects
- Helps with cause



#### What are the arguments for applying human biomonitoring complementary to environmental monitoring networks? (5/5)

and effect analysis

- No necessary link between both
- More political attention
- Common sense
- Better understanding of impact on humans
- Need to take a risk-based approach for emission limits
- Impact on humans
- Pollution gets personal
- Knowledge
- Early warning
- Public awareness

- One health
- Correlation
- Direct proof of risk
- One Health
- risk assessment
- Exposure
- Awareness raising
- Toxicology
- Cause and effect



#### What message or comment would you like to give us as feedback on this session or recommendation for the future? (1/4)

- Attention to collateral damage done by zero emission targets
- Create partnership with industry
- Stop eating eggs with your bacon!
- Thank you
- Panel debat with industrie
- Answers on regulations! Still unclear
- Thanks!
- Extra focus on future research on PFAS sensing
- Link monitoring results to future policy

- Please provide the presentations!
- Keep up this vers strong work
- Reporting to plenary from parallel sessions
- Balance.... Still a lot we don't know about PFAS, highlight the gaps
- Emphasis on interactive discussions
- Very interesting!

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 More teenagers to be tested so we can build engagement and interest in the younger generation!

#### What message or comment would you like to give us as feedback on this session or recommendation for the future? (2/4)



• Focus on massive hurdles for industry

- Debate time
- Discussion both within and without timetabled sessions
- Enough resources
- Very inspiring!
- More time indeed on this topic
- Better link between science and policies
- What are biggest challenge?
- Allowing Questions after the presentation

- Some more lessons learned : what works, what doesn't work
- Well organised and a lot of interesting results
- Engage people, Time for debate
- Communicate widely
- Thanks for hosting
- More specific questions
- keep going
- Pannel debate
- Combine data
- Good job
- Results

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#### What message or comment would you like to give us as feedback on this session or recommendation for the future? (3/4)



- Slido
- Present (planned) actions not only results
- Thanks
- Thanks for the quality of the session !
- More time !!!
- Congratulations
- Degrowth
- Longer coffee break!
- Connect among affected hotspot areas across Europe
- Good initiative, to be repeated, not just for pfas.

- Work together with industry
- Keep up the good work description
- Thanks!
- some time for discussion
- Good overview of monitoring activities, Impressive!
- Keep doing the good work
- Collaborate across domains
- Allow for Q&A
- Moderate open answers
- Great work!
- more slidos
- Thank you 😉

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- More time for discussion
- How to we turn the data into action
- Involve Griet
- Keep going