



## **O3-STEP<sup>®</sup> filter pilot**

### ***Advanced effluent polishing***

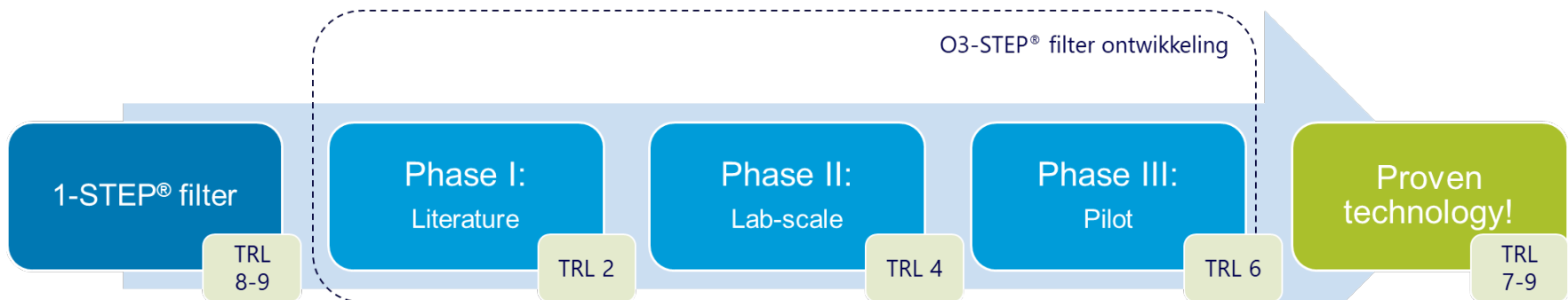
Manon Bechger/René van der Aa (Waternet)  
Coen de Jong (Witteveen+Bos)

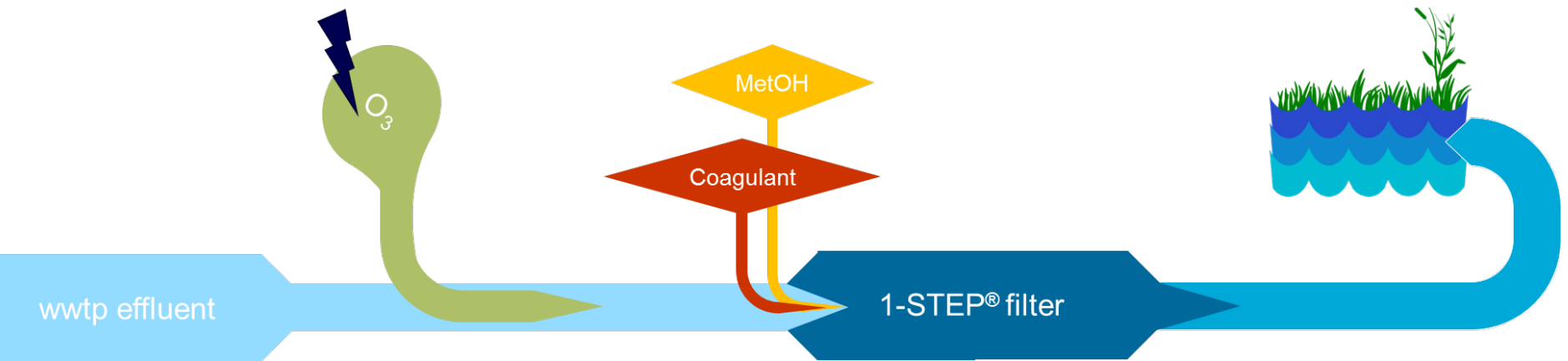


**Dutch Innovation on Micropollutants  
Removal from Municipal Wastewater  
November 7<sup>th</sup> 2019 Aquatech Amsterdam**

# O3-STEP<sup>®</sup> filter

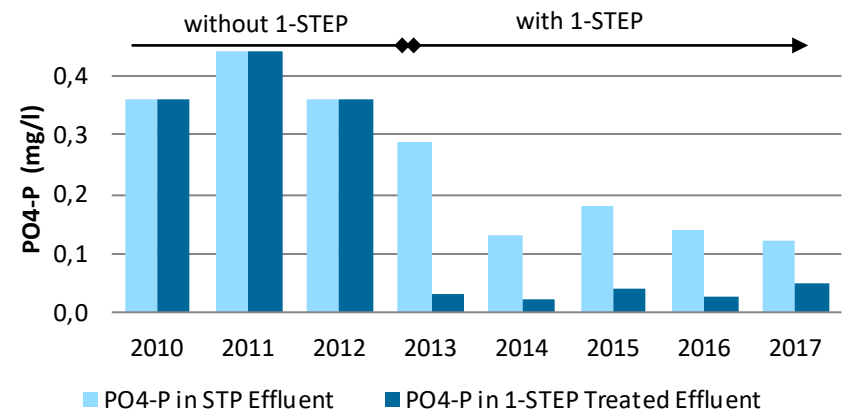
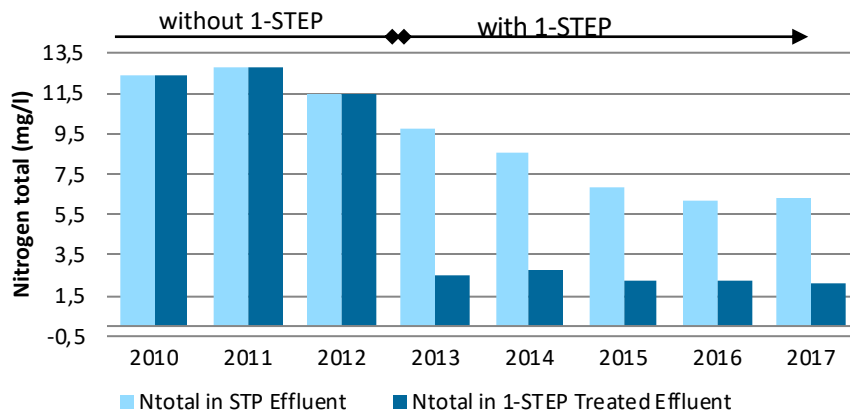
- EU-WFD effluent
  - Nutrients (N & P)
  - Suspended solids
- Micropollutants **and** oxidation products





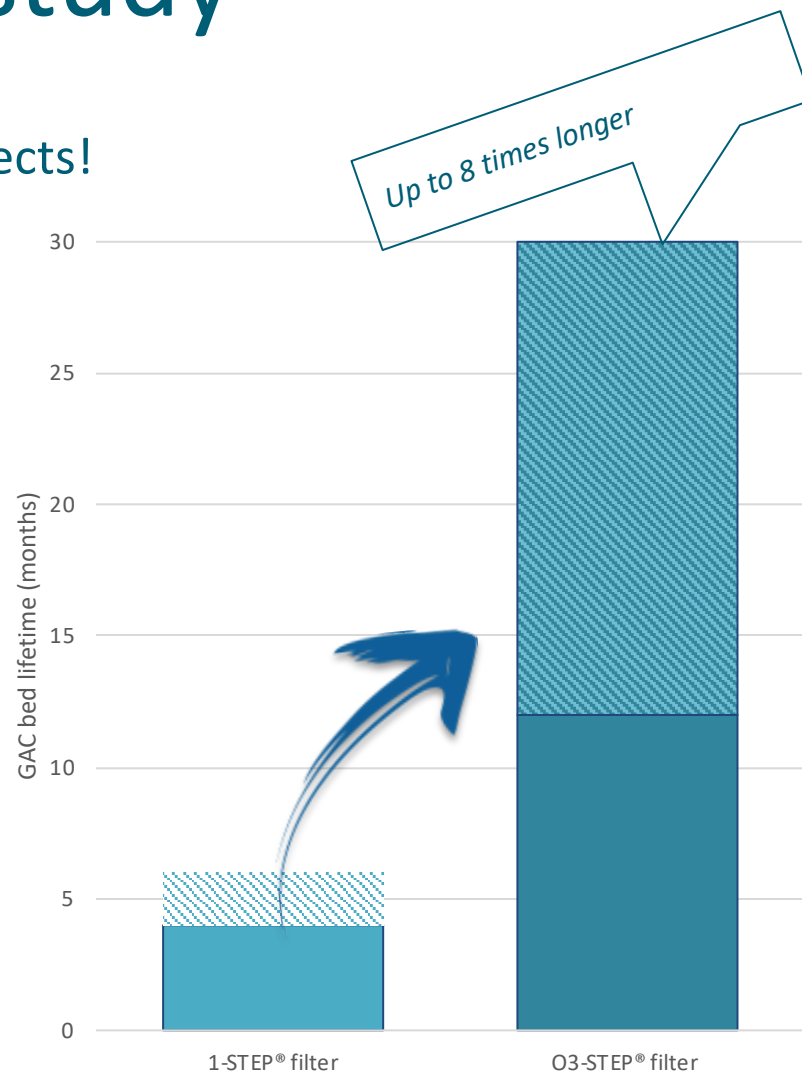
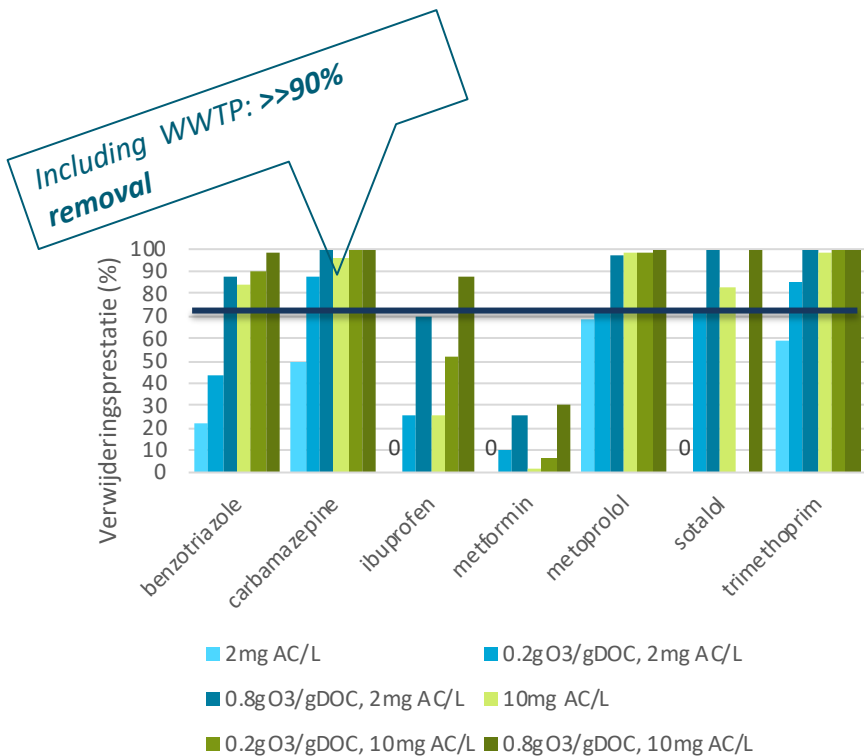
# Feasibility study

- Literature, Lab study, full-scale (nutriënt removal)
- Proven technology for N, P and TSS removal;
  - In operation since 2012;



# Feasibility study

- Significant cost- and sustainability effects!



# Results

Criterium	Score in respect to GAC-filtration
Removal of micropollutants	++
CO2 footprint	++
Costs	++
Ecotoxicity	++
Microplastics	0
Antibiotic resistance	++
Nutriënt removal	0

# Further research

- **Pilot testing on WWTP Horstermeer 2020/2021:**
  - Co-removal nutriënts & MP's
  - Optimization of dosing/EBCT
  - Antibiotics resistance and microplastics?
- **Full-scale on WWTP Horstermeer as soon as possible!**





**Thank you for your attention!**



**Manon Bechger**  
**[Manon.Bechger@waternet.nl](mailto:Manon.Bechger@waternet.nl)**



**Coen de Jong**  
**[Coen.de.jong@witteveenbos.com](mailto:Coen.de.jong@witteveenbos.com)**



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