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Asia Water Forum 2022
8–11 August 2022 • Online

Focus Area: Productive water in agriculture and the economy

Session Title: Decentralised circular solution for wastewater

Schedule: [10 August 2022 | 11:00 a.m. (GMT+8)]



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Wageningen, the Netherlands

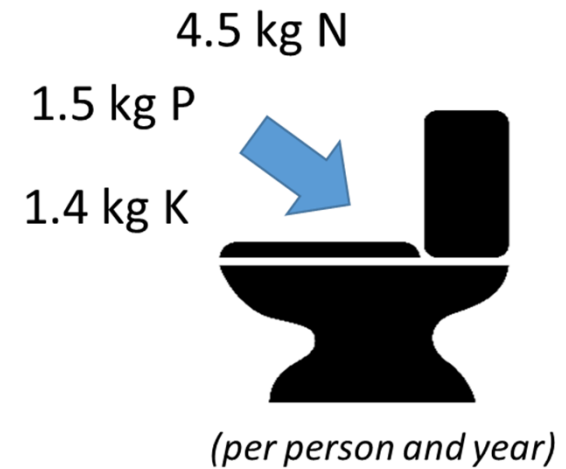


ADB



Context

- Global demand for food ↑
- Global demand for fertilisers ↑
- Phosphorus: not renewable, localised reserves
- Nitrogen fixation: energy demanding



- Only a small fraction is recovered today





Run4Life: decentralized resource recovery at the source

1. Separation at source

- Black water
- Food waste
- Grey water

2. Technological innovations

- Recovere technologies
- Novel ultra-low-flush toilet

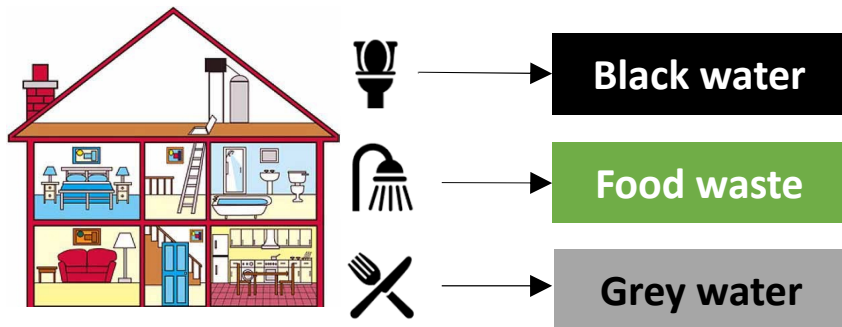


1. Break berries to implementation: **Market** uptake and **social** acceptance. **Legislation** is an important factor.





Three flows – enabling optimal resource recovery



Recovery of biogas and nutrients
→ more efficient at high concentrations

Recovery of water
→ more efficient at low concentrations





14 partners & 4 demo-sites

- **Entire value chain** – universities, technology providers, end users, public utilities and social sciences experts.
- Enhancing **market success** and **social acceptance** of the proposed solutions.

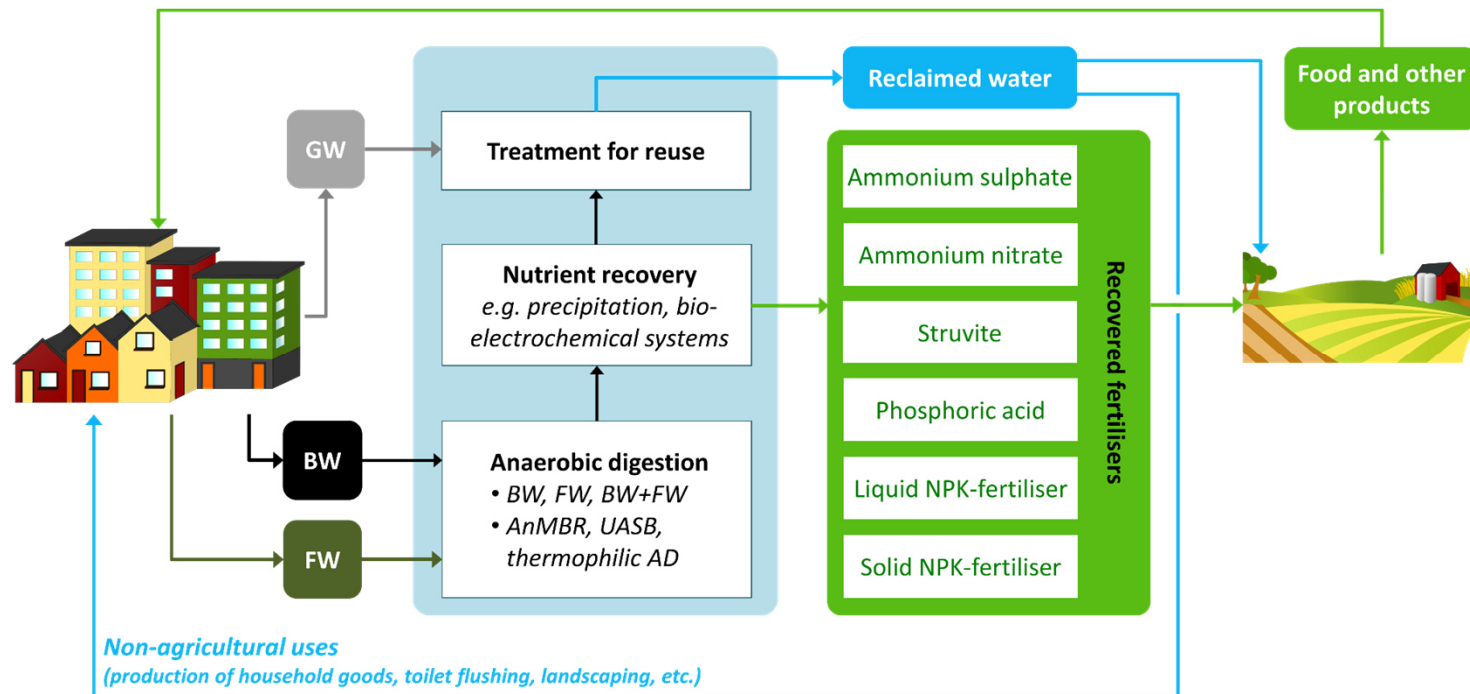
Demonstration sites:

- Sneek, the Netherlands
- Vigo, Spain
- Ghent, Belgium
- Helsingborg, Sweden





Proposed products

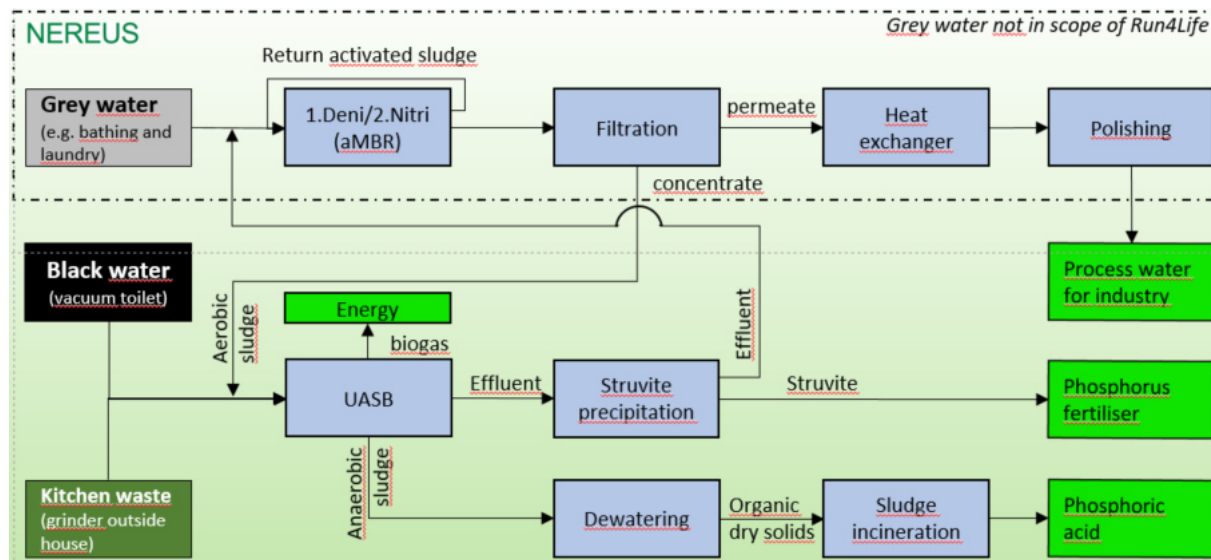


Bisschops I., Kjerstadius H., Meulman B., van Eekert M. (2019) *Integrated nutrient recovery from source-separated domestic wastewaters for application as fertilisers*. Current Opinion in Environmental Sustainability 40, 7-13. <https://doi.org/10.1016/j.cosust.2019.06.010>.





Niewe Dokken – Ghent, Belgium (1200p.e.)

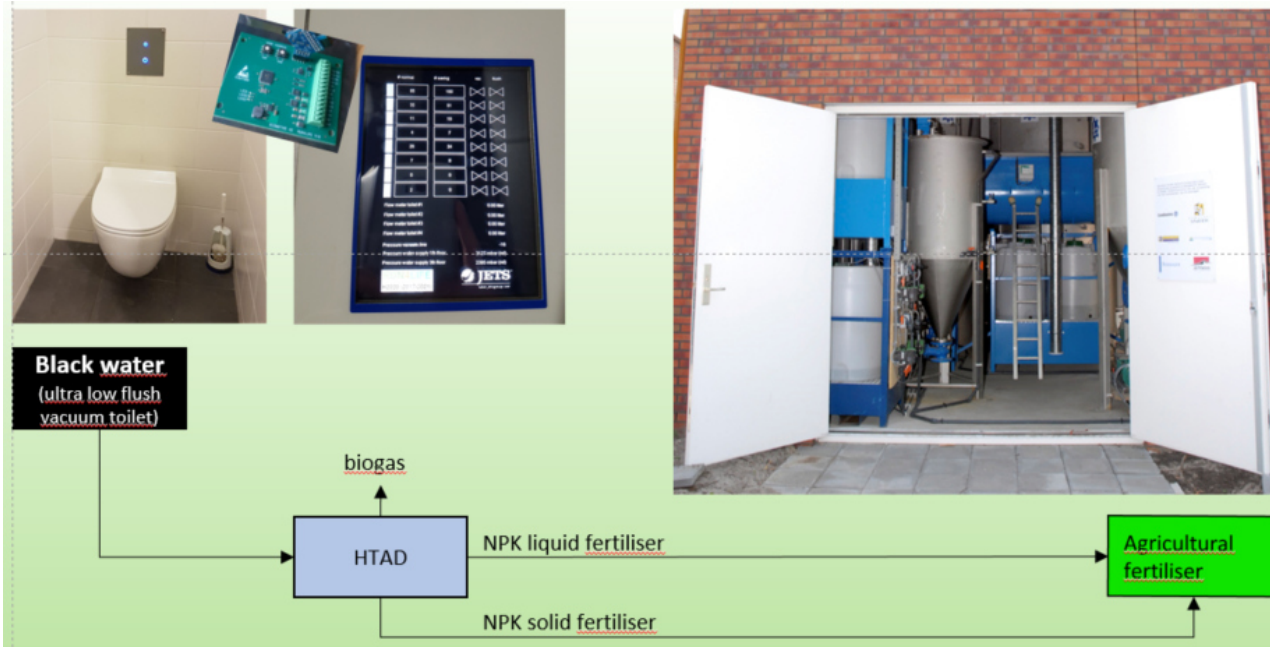


Vacuum toilets, community food waste grinder





Lemmerweg - Sneek, the Netherlands (32 houses)

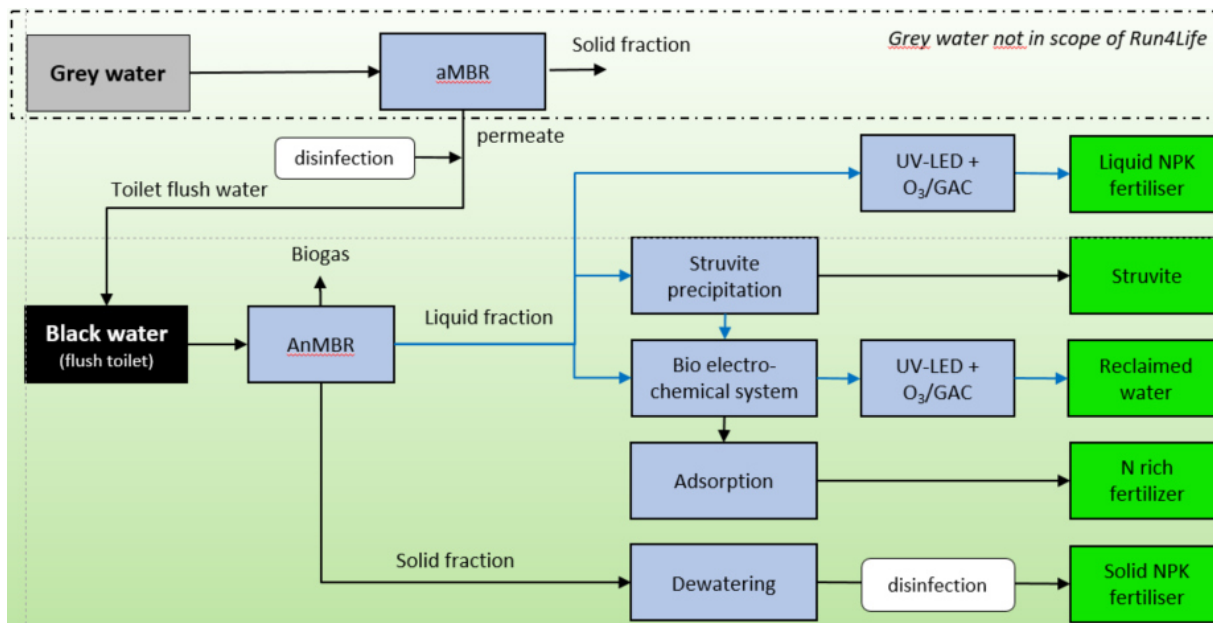


Novel dual flush vacuum toilets





Porto do Molle Business Centre - Vigo, Spain (250 people)

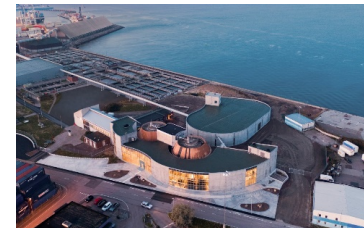
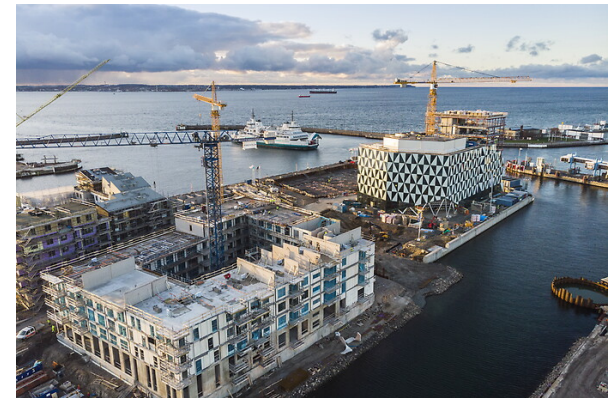
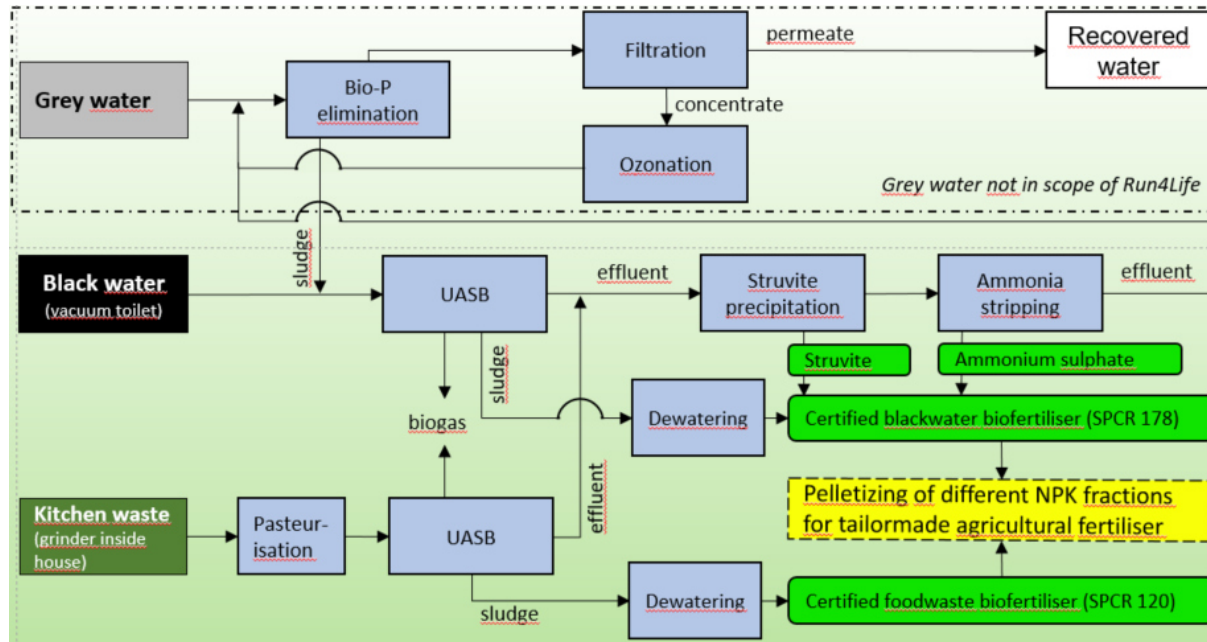


Novel Bio ElectroChemical system for nitrogen recovery





Oceanhamnen (H+) - Helsingborg, Sweden (1800 p.e.)



Vacuum toilets, household food waste grinders



Quality, safety and agronomic value of Run4Life fertilisers

- Recovered products are evaluated from the end-users' perspective
- Pot and field experiments comparing recovered products with commercial fertilisers
- Prove quality and safety of Run4Life fertilisers so that they can be employed as commercial resource





Find out more about Run4Life



www.run4life-project.eu

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Twitter (@RUN4LIFE_H2020)

