

Newsletter – September 2021

Dear project partners, some final information regarding the LESS IS MORE project.

- Thank you for all efforts in finishing the final project period. The joint final payment claim has been submitted and is to be controlled by JS before final reimbursement can be done.
- Final meeting 8th of June – The final meeting with all project partners with one part open for external public was arranged as a one-day-event on 8th of June. Thank you for all contributions!
- Reminder about obligations after project implementation – All partners need to store project documents in a safe and proper manner during a period of 5 years after the final payment.
- Reports are available at the project web site: [GFW - Gdańska Fundacja Wody](#)
- The Joint and consolidated report (deliverable 4.3) was the last piece – the report summarizes our activities including all external communication, and we have actually done a lot of things! In the report you can read more about all events and upcoming scientific papers.
- A nice “Success story” about the Slagelse case was produced, see last page.
- Latest news from Denmark (go to p. 48): [Spildevand #2 2021 by susanne brandt - issuu](#)
- Latest news from Lithuania: [UAB Pajūrio naujienos \(pajurionaujienos.com\)](#)
- Latest news from Sweden: [Tracking 14C-Labeled Organic Micropollutants to Differentiate between Adsorption and Degradation in GAC and Biofilm Processes | Environmental Science & Technology \(acs.org\)](#)
- Keep your eyes open for more scientific papers from the project in the near future!



Figure. All three pilots in the project



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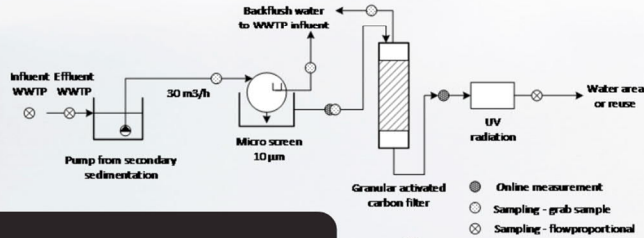
Despite a pandemic with cancelled meetings and travel opportunities we managed to construct three pilot plants in three countries, run more than 50 000 bed volumes (still counting) and disseminate information about our activities. Thank you for three fantastic years!

Thank you to all project partners.

If you have any questions don't hesitate to contact us.

Michael & Åsa

SUCCESS STORY



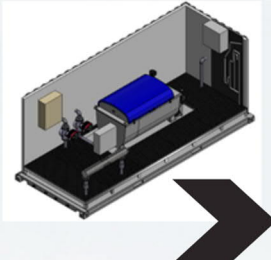
• Total pilot plant investment: 210,000 EUR
 • Man-hours for operation: 3 hours / week

LiM Pilot plant in Slagelse Experiences with GAC and UV

GAC filter with reactivated carbon

Reactivated carbon was used
 Virgin fossil carbon: 11-18 tons CO₂-equivalents per tons produced
 Reactivated carbon: 2-3 tons of CO₂-equivalents per tons produced
 = Carbon footprint: 6 times lower than virgin fossil carbon

Carbon particle size: 1.7 mm (0.42-2.8)
 EBCT was between 34 to 43 minutes



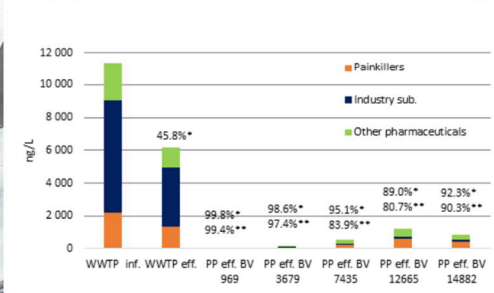
Test period from January 2019 to August 2020
 Design flow rate: 30 m³/h (8% of total flow)
 Drum filter: 10 µm filtration
 GAC: 17 m³
 UV design dose: > 40 mJ/cm², 4 lamps

Total flow amount treated (august 2020): 255,000 m³ or 14,900 BV
 Average electricity use: 0.24 kWh/m³
 (Microfiltration, pumps, GAC filtration, UV and online measurement)

Most important takeaways

Overall GAC was effective (≥97%) for removal of analysed micropollutants
 6 pollutants were breaking through >PNEC after 15,000 BV
 Effluent complies with criteria from DK drinking water and EU regulation on water reclamation (microbiology)
 Total cost for full scale implementation is estimated to 0.088 EUR/m³
 A new follow-up project (Oxytreat) is to reduce breakthroughs and increase GAC durability

Removal efficiency from WWTP influent to pilot plant effluent : 14 critical micropollutants



FOR MORE INFORMATION PLEASE VISIT www.gfw.pl/projekty/less-is-more/