

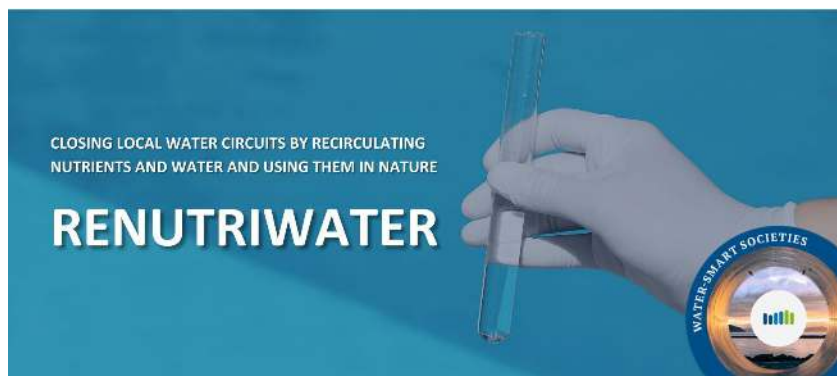
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Interreg
Baltic Sea Region



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SUSTAINABLE WATERS
ReNutriWater



EXTERNAL NEWSLETTER NUMBER 2

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Greetings from project leader Klara Ramm

Text: Klara Ramm

We are halfway through the project. This is a stage of intense work in the field, as the pilots have started. We recover, we plant, we irrigate, we analyze, we observe.



The grass is already growing in selected places, and corn is growing in greenhouses. The plants are under close observation by pilot leaders and all partners. We discussed our first observations on the beautiful island of Samsö. There, crops have already started growing in the greenhouse. Our colleagues performed the task perfectly following the guidelines for launching greenhouse crops, developed in the project.

So, we have preliminary results of the effectiveness of using reclaimed water in our pilot installations.

We try to involve as many stakeholders as possible in our exciting activities. Therefore, partners from all countries contact various target groups to share ideas and benefit from expert knowledge of the environment.

We encourage you to read the newsletter, where you will find more details about what engages us. We invite you to cooperate in the project for water protection and the circular economy.

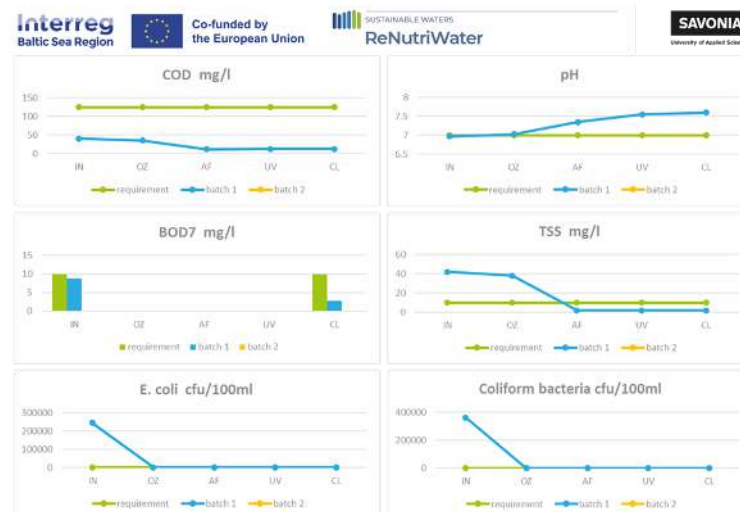
Project partners



First disinfection efficiency of reused waters with pilots

Text, charts & pics author: Monika Wojciechowska

Piloting in Savonia University of Applied Sciences have been underway since December last year. However, it was still a period of testing and checking the correct operation of the disinfection station built by us, which we use for each of the three pilots: in pilot 1 we test the effectiveness of disinfection, in pilot 2 we test the content of heavy metals and nutrients, soon – in pilot 3 we will be watering the plants in our greenhouse with disinfected water whole summertime.



Charts 1-6. Savonia UAS. WaterLAB. ReNutriWater Project. Piloting in week 11-12, 2024.

Example of disinfection efficiency.

We are currently recovering water from a small local treatment plant, and we can say that it is very demanding water. We obtain it from the end of liquid part of technology of wastewater treatment plant, which has a very simple treatment system. For industry experts, here are some parameters obtained by this treatment plant: BOD7 = 6.4 mg/l, COD = 34 mg/l, Suspended solids (TSS) = 14 mg/l, pH = ~ 7.

We already have the first test results, and they are satisfactory – they show the effectiveness of the disinfection station – most microorganisms die during the first stage of disinfection (ozonation) to achieve zero with ending process, and the clarity of water improves in the next stage of disinfection (activated carbon filter). The other 2

stages (UV and chlorination) only improve and sustain achieved efficiency and effectiveness. Our lab test results in outtake water after piloting, in comparison to requirements and results from treatment plant, are as follows: BOD7 = 2.7 mg/l, COD = 13 mg/l, Suspended solids (TSS) = 2 mg/l, pH = 7÷7.6.

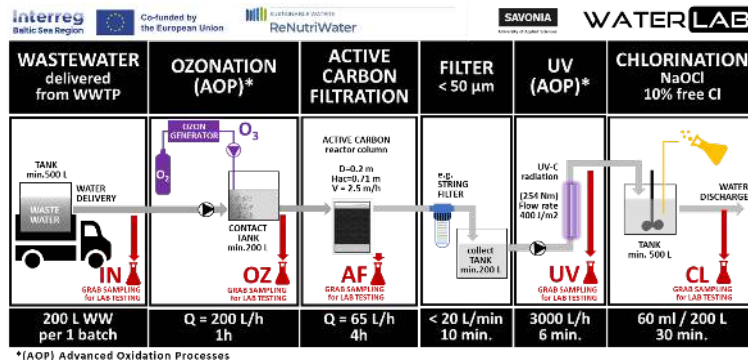


Chart 7. Savonia UAS. WaterLAB. ReNutriWater Project. Disinfection station.

There are many more test results: in addition to the physicochemical characteristic of water, we are also testing the pathogens it contains, nutritional values, heavy metal content, microplastics content, and we will carry out toxicity tests to assess the impact of disinfection by-products on the quality of water. For more results, we invite you to follow us as a Target Group.



Pictures 1. Savonia UAS. WaterLAB. ReNutriWater Project. Piloting 2024. Disinfection station.



Pictures 2-3. Savonia UAS. WaterLAB. ReNutriWater Project. Piloting 2024. Disinfection station.

Of course, we still have challenges when piloting – we are still improving the efficiency of our station, a team of people takes care of its efficiency and safe operation. Our laboratory team checks how to improve the acquisition of results from laboratory tests. We are looking for solutions on many levels: financial, potential threats and dangers, we are looking for all kinds of improvements and cheap, easily accessible solutions that could be efficiently implemented after scaling up to a full-size facility.

We try to interpret the results on an ongoing basis. There are endless ways to reuse water – the most important thing is to find out what it could be used for and personalize it. Treatment plants cooperating with us also receive interesting material with information about what is in their wastewater and can use this information to improve their technological processes. It's just a win-win situation. Meanwhile much more important thing is that reclaimed water after our disinfection station becomes safe and ready for reuse.

Piloting activities started in Samsøe

– report from ReNutriWater project meeting 21-22.5.2024

Text: Helen Honkasaari

Samsøe hosted the fourth big ReNutriWater consortium meeting on 21-22 May 2024.

The warm summer weather and more than 30 people representing almost all project partners coincided on the beautiful



island of Samsøe in late May. The 4th project partner meeting was hosted by Samsøe Municipality and Samsøe wastewater utility and provided an excellent preview of what to expect from Pilot 3 activities.

Pilot 3 activities, i.e. greenhouse trials, start this summer. Pilot 3 activities are the last step in the ReNutriWater project plan, to experiment with the use of reclaimed water. Having completed testing of different disinfection methods of wastewater and adjusting the nutrient composition of the reclaimed water in previous pilots, the project is finally testing the use of the reclaimed water on plants.

The greenhouses where these activities take place in Samsøe are located at the wastewater utility premises, thus securing access to reclaimed water close by. In addition to corn, the Samsøe pilot activities will include irrigation of small spruces, also known as Christmas trees. These can be seen in the group picture. The spruces are being irrigated with reclaimed water from Nordphos, a Danish biosystemic water treatment company, which is a longstanding partner of Samsø, having been involved in various R&D projects since 2014. Samsøe municipality has a long tradition of partnering with projects, to develop self-sufficiency and climate neutrality, going back to the Kyoto COP meeting.

In Samsøe the growing season was off to a great start, with some tender green corn-leaves sprouting at almost 20 cm length. These plants have been watered with reclaimed water now for some weeks and seem to be doing well. In

Samsøe the quality of the reclaimed water has been good enough to use for irrigation purposes. In determining water quality, the project partners have followed existing EU regulations. Some partners have found some of the reclaimed water samples unsuited for Pilot 3 activities and will have to resort to other water samples from different wastewater treatment plants. These sorts of issues are to be expected when working with reclaimed water, as some issues can be very localized. Testing in pilot 1 shows the efficacy of the disinfection methods but e.g. signs of dead helminth eggs in water samples presents an obstacle for using the reclaimed water for irrigation purposes.

In Poland, Latvia and Finland, where further pilot 3 activities will take place, the greenhouses are being erected within the month of June. The timing is connected to the growing season in the different countries, where e.g. in Finland the leaves on the trees had only just started sprouting in Kuopio by the time of the project meeting.

All piloting partners were happy accept the gift of corn-seeds for cultivation that Samsøe offered, as they had bought a batch of 5 kg and had plenty to share. So now most of the piloting trials will have the use of the same batch of corn seeds!



Announcing the "Safe Water" Mentoring Programme

ReNutriWater is thrilled to announce the launch of our new mentoring programme "Safe Water," as part of the ReNutriWater project. This exciting initiative is designed to support representatives of infrastructure and public service providers, and small and medium enterprises from the water sector, in exploring and implementing technological water reuse solutions.

Programme Highlights:

Objective: The "Safe Water" mentoring programme aims to guide participants in assessing the feasibility of implementing selected water reuse technologies, evaluated in project. Our mentors will provide expert guidance to help you integrate these solutions within your organisation.

Outcome: By the end of the programme, mentees will have developed a comprehensive action plan tailored to their organisation's needs. This plan will include an analysis of possible implementation of various water reuse solutions.

Timeline:

- Announcement: Autumn 2024
- Registration Opens: Q4 2024
- Programme Start: Early 2025
- Duration: 6 months

Why Participate?

Expert Guidance: Work closely with experienced mentors who will provide invaluable insights and support.

Tailored Action Plans: Develop a customised action plan that aligns with your organisation's goals and capabilities.

Sustainability Focus: Learn how to implement water reuse solutions that contribute to circular economy.

Don't miss this opportunity to be at the forefront of water sustainability and innovation. Stay tuned for more details on how to register and take the first step towards transforming your organization's water management practices.

Together, let's make water reuse a sustainable reality!

Follow our homepage for more news and updates:

[Homepage](#)

Stakeholder survey

ReNutriWater is reaching out to wastewater treatment plants to assess their operations in all partner countries. A stakeholder survey has been launched in six languages and can be accessed on the project homepage. Please share the link to the survey!

The survey is aimed at wastewater treatment plant operators in the Baltic Sea Region, primarily Denmark, Finland, Latvia, Lithuania, and Poland. The survey has been published in these five national languages, but also in English.

The survey takes no more than 15min to complete. If you are working at a wastewater treatment plant and interested in assisting the success of ReNutriWater, and thus, finding new ways to make water management more sustainable, please consider filling it!

- [English](#)
- [Danish](#)
- [Finnish](#)
- [Latvian](#)
- [Lithuanian](#)
- [Polish](#)

Upcoming event:



28.8.2024 Europe Forum, Turku, Finland

ReNutriWater in Europe Forum – and a Partner Event in European Green Week

ReNutriWater will be presenting its work and solutions in an event called Riding the Wave - Sustainable Water Management in the Baltic Sea Region. It is organized together with other water projects as a panel seminar in the annual Europe Forum, in Turku 28th of August. The panel seminar is at the same time a Partner Event for the European Green Week.

One of the cornerstones of Europe's sustainable future is water security. The European Commission has highlighted it by making "Towards a water-resilient Europe" the main theme of this year's European Green Week. Link to the programme: [Partner Events - European Union \(europa.eu\)](https://european-council.europa.eu/media/en/press-articles/2024/07/2024071601_en.pdf)

The theme of the Europe Forum 2024 is "Europe's Secure Future" and the security theme covers also sustainable development and resilience. Link to the programme: [Program - Eurooppa-foorumi | Europe Forum | Europa-forum](https://european-council.europa.eu/media/en/press-articles/2024/07/2024071601_en.pdf)

The panel presents projects ReNutriWater, Waterman, Nursecoast II and City Blues, which all contribute to the Policy Area Nutri in the EU Strategy for a Baltic Sea Region. Thus, the PA Nutri Coordinator Elsi Kauppinen and the participating projects discuss themes like water security and sustainable practices by recovering safe water and nutrients from wastewater, implementing water reuse strategies, and piloting alternative treatment technologies and preventing flooding through nature-based solutions.

The event will be held Wednesday 28th August, at 14:00 EEST, in Turku City Theater, Itäinen Rantakatu 14, Turku.

The event can be followed online, the registration through the link: [Livestream - Eurooppa-foorumi | Europe Forum | Europa-forum](https://european-council.europa.eu/media/en/press-articles/2024/07/2024071601_en.pdf)

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