



Interactive Water Management

IWAMA

International co-operation project initiative

Challenges to be addressed

The project focus on three main areas in the municipal WWT sector where gaps have been recognized through work in previous EU funded projects PRESTO and PURE:

1. the need for **increased capacity/structured lifelong learning** among WWT operators and experts in the region
2. the need to operate the WWTPs more resource-efficiently in particular need to improve and develop **energy management**
3. the need to improve and develop **sludge management**.
4. More **stakeholders involvement** – to using best available technology BSR needs more water sector forerunners implementing voluntary actions that go beyond the legal requirements.



Project objective

Project aims to improve the **resource efficiency** in wastewater management in the BSR by capacity development of wastewater treatment (WWT) operators and implementation of pilot investments which will result in reduced nutrient inflows to the Baltic Sea.

While advanced technology solutions are continuously becoming available, their integration at WWTPs is often challenging and inefficient. The project will increase capacity of WWT operators in choosing cost-effective technologies in nutrient removal, smart sludge and energy management and build structured models to support lifelong learning in WWT sector.



Specific project objectives

WP2. To involve new public and private practitioners and to support their organisational capacity to take actions for nutrient and hazardous substances reduction for better state of the sea and regional waters

WP 3. To enhance efficiency of water management by increasing capacity of WWT operators in efficient nutrient removal, smart sludge and energy management, to support WWT sectors lifelong learning

WP 4. To increase efficiency of water management by evolving and piloting the smart energy management concept at WWTPs in relation to efficient nutrient removal

WP5. To increase efficiency of water management by evolving and piloting the smart sludge management concept at WWTPs leading to nutrient reduction



Project results

- **increased capacity** of WWT operators in choosing and operating cost-effective technologies
- self-sustaining and **comprehensive life-long learning programmes** integrated in the operation of partner water associations and environmental centers
- more performance **efficient use of the existing investments** in **nutrient treatment** at WWTPs in the BSR
- **increased number of actors** fully aware of their capacity and potential to improve state of the Baltic Sea and their increased international visibility through Baltic Sea Challenge and the UBC network



Project results

- **benchmarking for energy demand** in relation to the nutrient removal
- evolved and piloted **smart energy management concept** for WWTPs in relation to efficient nutrient removal
- increased capacity of WWT operators to **unlock energy saving and production** potential
- **pilot investments** demonstrating the means and scale of possible energy savings
- increased capacity of WWT operators to choose right sludge treatment technologies at both small and big scale



Project results

- **new tested cost-effective sludge treatment applications** for small scale WWTPs in relation to HAZ and nutrients
- new tested advanced treatment **systems for sludge water**
- evolved and piloted **smart sludge management concept** (including common evaluation system of sludge treatment efficiency) for WWTPs in relation to efficient nutrient removal
- **more beneficial use of the existing investments** in sludge treatment at WWTPs
- **new investments** demonstrating low cost sludge treatment applications for small scale plants in relation to HAZ and nutrients.



IWAMA supports following Actions of PA Nutri

- **Managing nutrients more efficiently** – energy audit and energy key figures done in relation to N and P removal; sludge audit and sludge key data in relation to N and P removal, optimized plants (especially optimized oxygen regulation) are more potent for nitrogen removal potential;
- **Improving waste water treatment** - promote cost-efficient nutrient removal and sustainable sludge handling in urban waste-water treatment plants eg. energy audits resulting optimization plans, reflux of phosphorous from the sludge treatment contributing to the phosphorous balance at wwtp, sludge water treatment contributes to the reduced nitrogen effluent loads in big wastewater treatment plants – pilot case full - scale piltoting in Tartu; project is addressing hazardous substances in sludge and the role of sludge treatment for hazards balance. (sludge audits, capacity building)



IWAMA supports following Actions of PA Nutri

- **Improve nutrient load data** - benchmarking for energy demand and sludge handling in relation to the nutrient removal, collection and evaluation of key figures in energy and sludge, audit concept for smart energy and sludge management
- **Cooperate with non-EU Member States** – involving partners from Russia and Belarus (WWTPs of Minsk and Slonim, environmental center EKAT Kalinigrad and St Petersburg Academy of Science).
- **Investigate cost-efficient nutrient reduction mechanisms** - pilot investments for improved energy efficiency and enhanced nutrient removal (enhanced nitrogen control) at operating WWTPs, pilot investments to improve sludge management quality and enhance nutrient removal through sludge water treatment and new solutions for sludge hygienisation, stabilisation and drying.



Project partners and budget

Partnership of IWAMA consists of **17 partners** representing WWTPs, (waste)water operators' associations, environmental centers and research institutions from Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden.

Project is supported by **12 associated partners**: forerunner WWTPs, organisations from RU and BY, Baltic Sea Challenge (BSC) initiative and Polish Water and Wastewater Operators' Association.

Estimated total project budget amounts to **4 617 617,82 EUR**.

