BSR WATER

Platform on Integrated Water Cooperation

Engaging the water expert community in the exchange of knowledge and innovation

Union of the Baltic Cities Sustainable Cities Commission

MARIIA ANDREEVA

PLATFORM BSR WATER

Interreg Baltic Sea Region

EUROPEAN UNION

EUROPEAN REGIONAL DEVELOPMENT FUND

Union of the Baltic Cities

– leading network of cities in the Baltic Sea Region

working together to foster sustainable, smart and safe cities

Sustainable Cities Commission

- Urban mobility and urban planning
- Water management (wastewater, stormwater)
- Energy management and energy efficiency
- Local climate work
- Sustainable urban development

BSR WATER platform

IWAMA, iWater

PRESTO, PURE

UBC | UNION OF THE BALTIC CITIES

SUSTAINABLE CITIES COMMISSION

ubc-sustainable.net

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BSR WATER

Platform on Integrated Water Cooperation

Duration:
1 October 2018 to 31 March 2021

10
Partners

19
Associated partners

Funding:
Interreg BSR Programme 2014–2020

Budget:
EUR 1,133,440.40 million

9
Countries from Baltic Sea Region

www.bsrwater.eu

BSR WATER project aims

to enhance cross-sectoral cooperation in the water sector by providing a possibility for

- transnational experience exchange,
- sharing of good practices and solutions,
- developing comprehensive overview of the current and future policy contexts.

Partners

1. Union of the Baltic Cities (UBC)Sustainable Cities Commission, FI
2. Baltic Marine Environment Protection Commission – Helsinki Commission (HELCOM), FI
3. Technical University Berlin, DE
4. University of Tartu, EE
5. Gdansk University of Technology, PL
6. Environmental School of Finland (SYKLI), FI
7. Riga City Council, LV
8. City of Helsinki, FI
9. State Geological Unitary Company “Mineral”, RU
10. State Autonomous Institution of the Kaliningrad region “Environmental Center “ECAT-Kaliningrad”, RU

Platform projects

1. **IWAMA** — Interactive Water Management
2. **BEST** — **Better Efficiency for Industrial Sewage Treatment**
3. **VillageWaters** — Water emissions ad their reduction in village communities – villages in Baltic Sea Region as pilots
4. **Manure Standards** — Advanced manure standards for sustainable nutrient management and reduced emissions
5. **iWater** — Integrated Storm Water Management
6. **RBR** — Reviving Baltic Resilience
7. **CliPLivE** — Climate Proof Living Environment


Developing new ideas
by sharing experiences


BSR WATER
activities

WP2+3

Collecting and synthesizing good practices, solutions and expertise on water management

to make the results of transnational projects available in the region via an online platform Baltic Smart Water Hub, where different project results are displayed uniformly as developed tools, tested good practices and technical solutions

WP4

Facilitating regional policy dialog on sustainable water management

to develop HELCOM recommendations for sustainable utilization of nutrients and other valuable components contained by waste- and stormwaters and sludge

Improving links and integration among water sector experts in the region

Baltic Smart Water Hub

www.balticwaterhub.net

BALTIC SMART WATER HUB

Online portal enabling exchange of practical experience and promotion of local achievements in the region

BALTIC SMART WATER HUB

Fresh water

Storm water

Sea water

Waste water

Showcasing good practices, technical solutions and tools in four water areas

Technical solution

FRESH WATER

3D mapping of groundwater resources in Gotland, Sweden

Good Practice

SEA WATER

Applying gypsum on agricultural fields to reduce phosphorus discharge to the Archipelago Sea, Finland

Technical solution

WASTE WATER

Phosphorus reduction by chemical precipitation and tertiary filtration in sand filters at Växjö WWTP, Sweden

Good Practice

WASTE WATER

Centralized wastewater treatment at Helsinki WWTP, Finland

Tool

STORM WATER

Green Area Factor, GAF

Good Practice

WASTE WATER

Reducing P-discharge from Riga WWTP, Latvia

Informing about the existing funding instruments, regional policy framework and potential networking associates

BALTIC SMART WATER HUB

We welcome you to submit cases to the Hub and promote your expertise in the region!

www.balticwaterhub.net

For you as a case provider:

- Engagement into the international expert network
- Wider outreach and promotion of your organizations' qualifications and excellence
- Selected cases are presented at international events and webinars
- All cases are disseminated online in the region

Good practice
WASTE WATER

Example of operation and cooperation with industrial stakeholders at MWWTP Vitebsk Vodokanal

Support your customers! Upst
Grevesmühlen, Germany

Solution to which problem:
Indirect discharges from industries often pose a risk of dis
approach to reduce the negative impacts is to define criteri
Germany, these criteria often refer to DWA guideline M 115-
necessary. Conflicts are likely to happen if discharges do not m

Technical condition:
The wastewater treatment plant in Grevesmühlen serves 65.00
WWTP serves as a central sludge treatment facility for surrour
increase the biogas production. After years of renovation a
thermal disintegration unit and a side stream deammonificati
reduce maintenance intervals of e.g. plate aerator.

Summary:
The Zweckverband decide to approach indirect dischargers i
exceeding of concentration limits is accepted and balanced v
refer to toxic or non-degradable substances.

On the other hand, the Zweckverband offers to manag
manufacturing location or centralised at the WWTP. It is bene
clean manufacturing area and do not need to change for th
Zweckverband is profiting from the qualified workers, who h
regular bases to collect 24h mixed samples.

Regarding wastewater from a dairy it was decided to stop the
of a flotation unit at the WWTP. The new unit will allow the op
extent required. In case a C-source is needed for denitrific
wastewater, which in terms is beneficial for the treatment pr
sludge by trucks from the dairy to the WWTP.

Result:
In the win-win situation both indirect discharger and operator
treatment including optional maintenance as a service is ma
number of unpleasant surprises due to unexpected discharge
WWTP in a smart way since the reliability of predictions of the

Energetic autarky w
Wiedenbrück WWT

During the waste water treatment p
nutrients as valuable components. T
results in a stabilization of the sludge
The biogas can be used for the prod
electrical energy required for the sl
reactor, in which the sludge is heated

The energy costs are one of the main
great if the complete energy demand
One approved solution is to add furt
same time a relevant problem of the t
the digesters are residues form sla
organic fraction of the municipal wast

This addition of organic residues to a r
have from case to case to be pre-trea
in the digesters. Also it has to be che
happen (like through the polyphenolic

Components installed in the solutio
The main components on the waste
project on co-fermentation and energetic autarky are the following:

- Pre-treatment plant for the slaughterhouse waste water treatment (sieve 1 mm, chemical-physical biological pre-treatment);
- Digester 6,500 m^3 volume;
- Agitator / stirrer;
- Heating system;
- Gas flare;
- Gas drying;
- Activated carbon unit;
- CHP (2 x 1.4 MW) including station building;

- Gas drying;
- Activated carbon unit;
- CHP (2 x 1.4 MW) including station building;
- Gas storage (2,000 m^3);
- Post sludge thickener;
- Sludge liquor treatment plant (PANDA System).

Solution provider:
aqua & waste International GmbH
aqua consult Ingenieur GmbH

Example of functioning on site:
enbrück the sewage of a slaughterhouse (approx. 650,000 PE) is pretreated on the site of the
age treatment plant and then commonly treated together with municipal wastewater (76,000 PE).
ouse wastewater is transported pneumatically via a 2.3 km long pressure pipe to the site of the
lant next to the municipal treatment facility. The compressed air cushions are expanded by means
one and the waste water is fed to a sieve. With a chemico-physical flotation plant, approx. 80 to
D load and approx. 60% of the N-load are removed from the slaughterhouse wastewater, fed into
a co-substrate and anaerobically treated together with the primary and excess sludge of the
e and the excess sludge from the biological slaughterhouse treatment. The location of the
plant in the close vicinity of the municipal treatment plant offers considerable advantages due to
port paths for the flotate sludge to the digester.

iological main stage has a capacity of approx. 100,000 PE and treats the municipal waste water
hterhouse water (treated biologically after the flotation) by means of biological phosphate
trification and denitrification. The biogas produced is used for the power generation by CHP units
capacity approx. 4 MW el) in order to cover the electricity demand of the sewage treatment plant
V el). The excess energy is fed into the power grid.

bic digestion of the flotate sludge considerable amounts of nitrogen get transferred to the liquid
to reduce the energy demand for the N elimination in the sludge water and the required external
the nitrogen elimination can alternatively be conducted via nitrite instead of nitrate. For this
NDA system was implemented.

1 million of which:

- Digester: 1.29 M €;

- Auxiliary equipment: 1.0 M €;

- CHP: 1.6 M €;

- CHP station building: 1.4 M €;

- Electrical, Instrumentation & Control: 0.6 M €;

- PANDA System: 1.42 M €.

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Thank you!

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UBC Sustainable Cities Commission

www.bsrwater.eu

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