

PURE – Project on Urban Reduction of Eutrophication



*HELCOM 5th BSAP
Stakeholder
Conference*

Photo: Lehtikuva/Yuri Belinsky

- Advanced phosphorous removal from (municipal) waste waters is one of the most cost-efficient ways to reduce the eutrophication

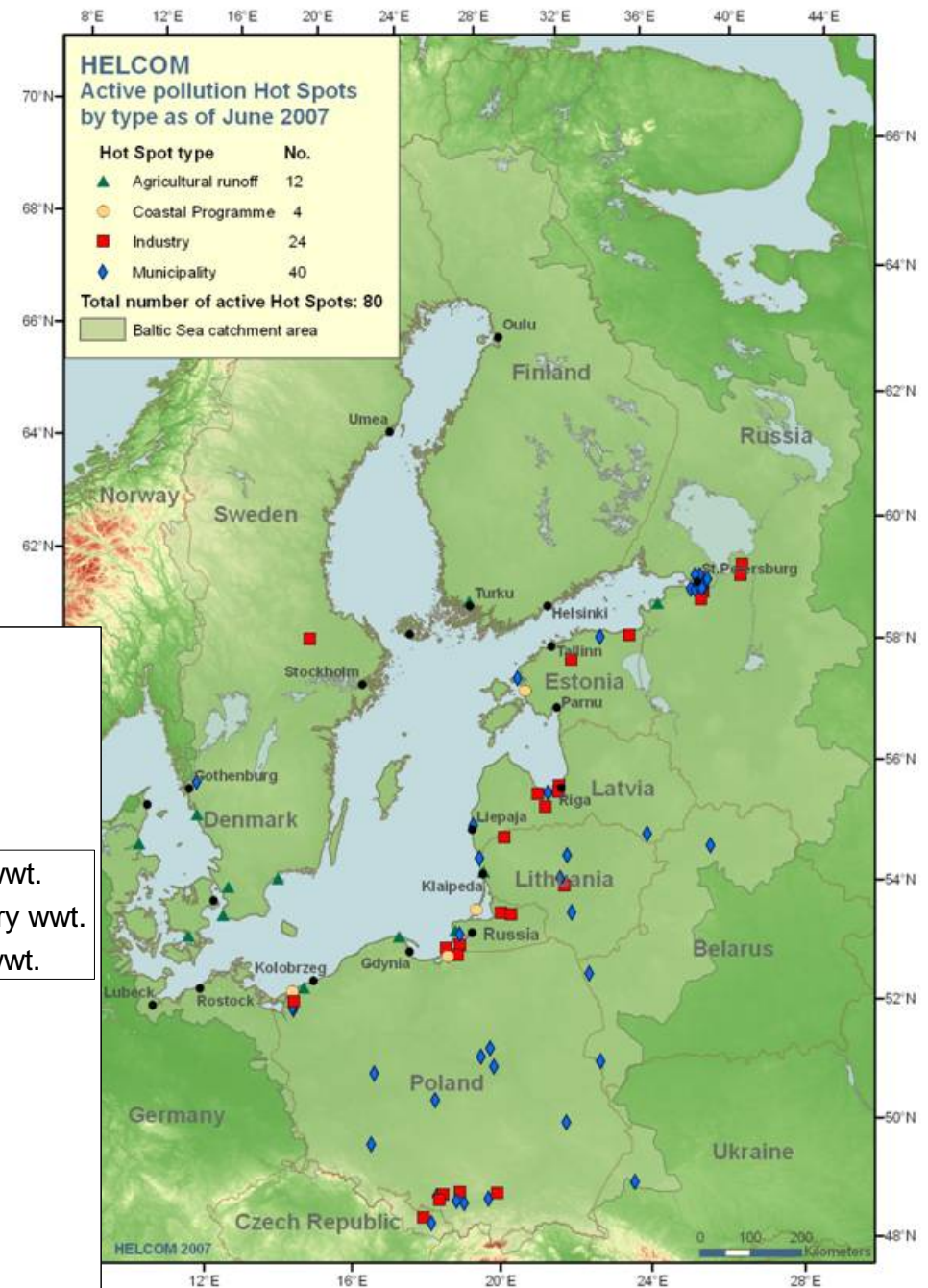
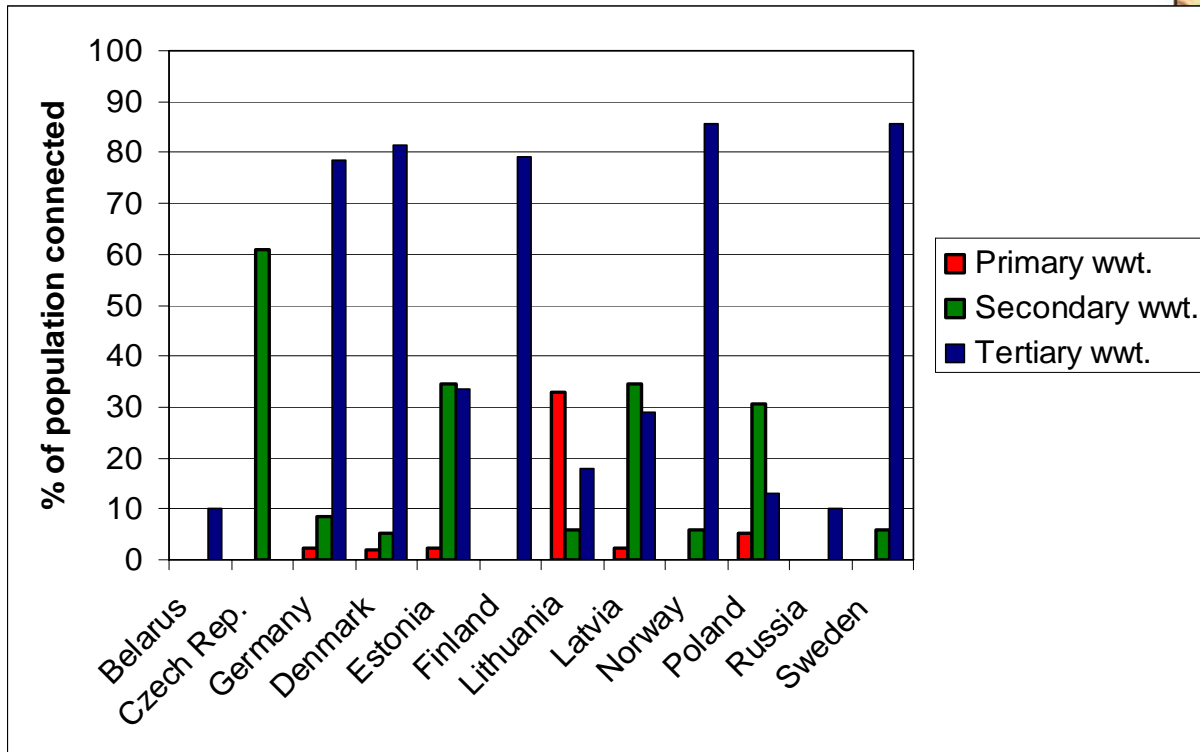
Currently lack of

- good examples and knowledge at plant level
- funding and coordination
- common commitment and joint implementation

Project improves wastewater treatment and supports selected WWTPs to reach phosphorus content of 0,5 mg/l in outgoing wastewaters

- level of the recommendation of HELCOM Baltic Sea Action Plan
- half of the concentration stipulated by EU Waste Water Treatment Directive
- cleaner waste waters addressed also in the EU BSR strategy

Municipal waste water treatment



- Project 17.12.2009 – 16.12.2012
- Kick off 9.-11.2.2010
- **Technical audits** and reports in selected WWTPs
- Concrete **investments** → annual reduction of 300-500 tons of phosphorus
- Suggestions for **sludge handling**
- **Book of good practices** in phosphorus removal and sustainable sludge handling at municipal WWTPs
- **Online database** on urban wastewater treatment: monitoring, benchmarking, matchmaking in the Baltic Sea Region

Union of the Baltic Cities Commission on Environment

Secretariat (Lead partner, Turku, Finland)

John Nurminen Foundation (Content coordinator, Helsinki, Finland)

Baltic Marine Environment Protection Commission HELCOM
(Information and dissemination, Helsinki, Finland)

Investment & sludge handling:

Riga Water Ltd. (Latvia)

Jurmala Water (also technical audit, Latvia)

Brest Municipal Water and Wastewater Enterprise Vodokana
(also technical audit, Belarus)

Technical audit & sludge handling:

Järve Biopuhastus (Kohtla-Järve, Estonia)

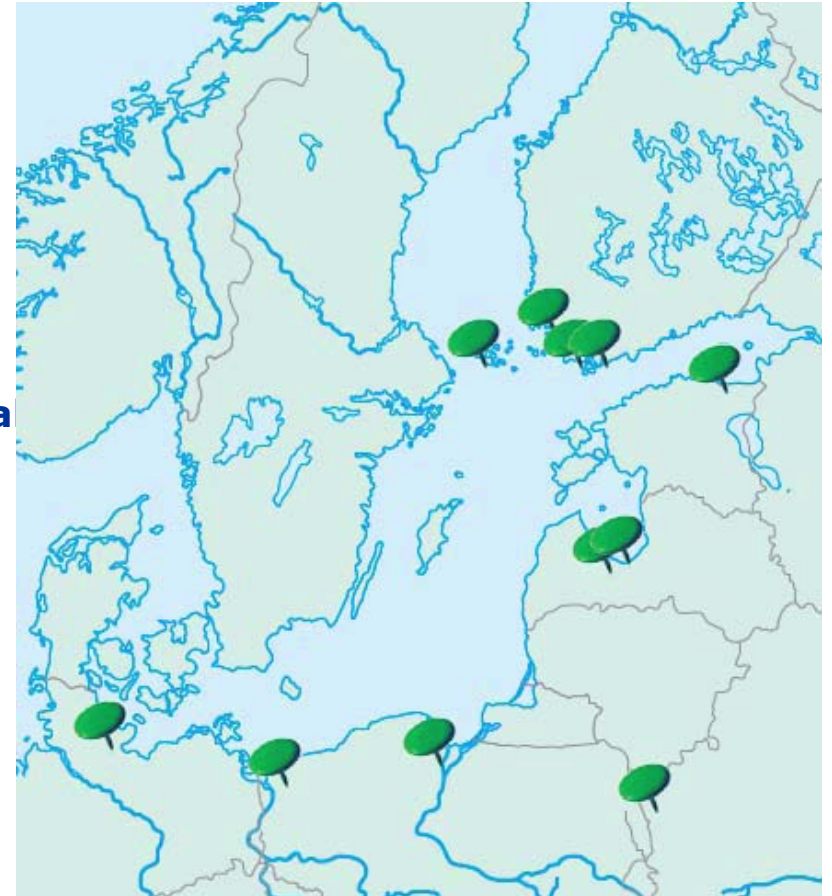
ZWIK - Water and Sewage Company of Szczecin (Poland)

Municipality of Gdansk (Poland)

Sludge handling & other

Sewage Management Facilities Lübeck (sludge handling development, Germany)

Mariehamn Town (information & sludge, Finland)



1) Improved wastewater treatment (phosphorous removal)

- pilot investment in **Riga**
- technical audits in **Jurmala, Brest, Kohtla-Järve, Gdańsk, Szczecin**
→ investment (0,5 mg/l) in **Jurmala and Brest**
- other partners: experience exchange

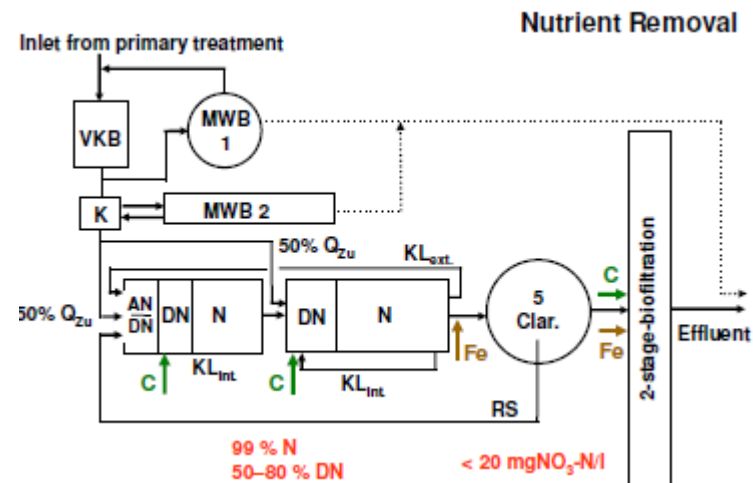
2) Improved sludge handling capacity

- technical audits and sludge handling plan for all above
- strong contribution, experience exchange and development work also from other partners

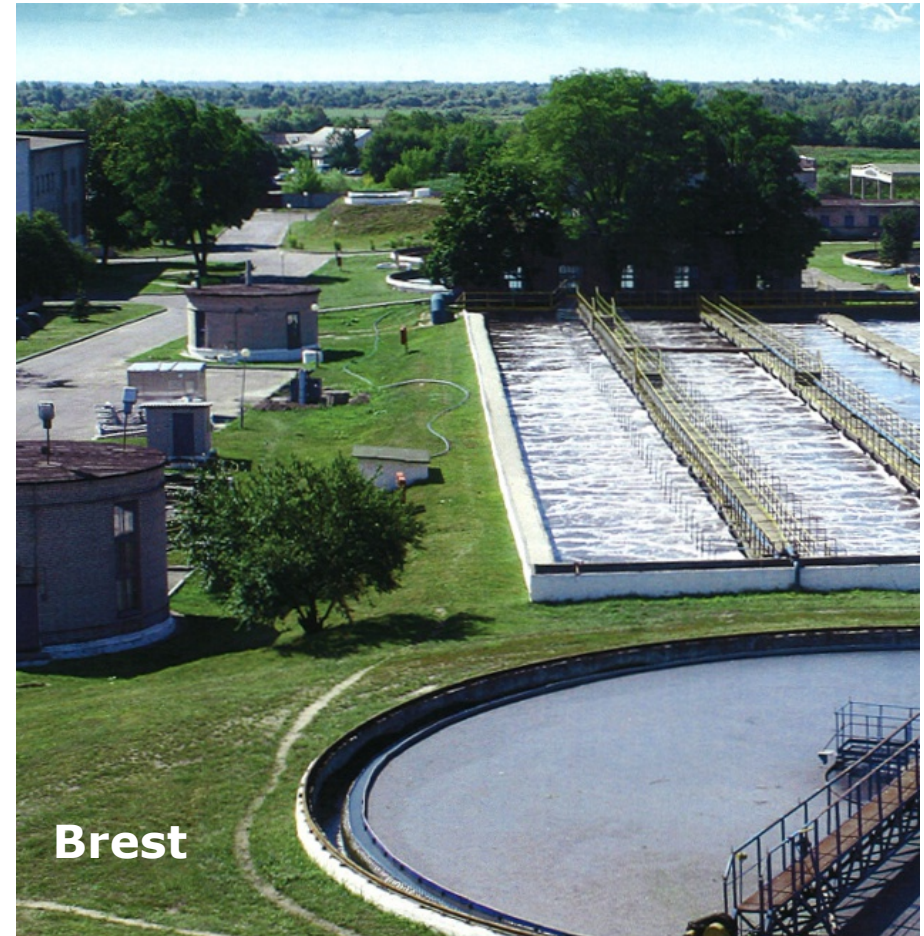
3) Commitment and actions around the Baltic Sea Region

- information collected from BSR, benchmarking, matchmaking for cities, funders, decision makers etc.
- book of good examples from PURE to the BSR, support to BSAP implementation

- To **review current** wastewater treatment practices regarding phosphorus removal and sludge handling processes
- To establish and propose the most cost effective **implementation plan** of phosphorus removal to reach an annual average of <0.5 mg P per liter of effluent
- To estimate the **additional costs** of improved phosphorus removal on continuous basis



- Investments consist of equipment needed for enhanced phosphorus removal
- Need for investments is assessed in the technical audits
- Pilot investment in Riga in 2010
- Investments in Brest and Jurmala during the project (2011-2012)



- Challenges is sludge handling in almost all of the PURE participant WWTPs, different problems in different plants
- Study of the sludge handling processes in detail in **Brest, Jurmala, Gdansk, Kohtla-Järve and Szczecin**
- Preparing a pragmatic **implementation plan** for more sustainable sludge handling in the target WWTPs
- Creating a proposal for **future investments** in sludge handling
- Mapping existing **good practices** of sludge handling and presenting them to the participant WWTPs
- PURE participants in crucial role: **Exchange of information and expertise** between all of the PURE partners (above mentioned + Lübeck, Mariehamn and Riga)



Thank you!



Szczecin

WWTP Zdroje

