

**Project name:** PURE

Turku, 12.12.2012

## STATEMENT

### **Next steps of PURE partners to promote advanced phosphorus removal and sustainable sludge management in the Baltic Sea region**

*The Baltic Sea suffers from overload of nutrients that causes severe eutrophication with symptoms like algal blooms, with decline of biodiversity and eventually dead sea bottoms that cannot sustain marine life. Municipal waste water accounts for 30% of the point source nitrogen loads and 90% of the point source phosphorus loads to the Baltic Sea. Reduction of this pollution benefits the overall condition of the marine environment, but also leads to an improved state of the local water environment which is especially important for attractiveness, living conditions and welfare of the local communities.*

The partner organisations of the Project on Urban Reduction of Eutrophication (PURE) will carry on further actions for enhancing their waste water treatment plants' performance. This includes benchmarking and sharing project experiences to other municipalities, water companies and other stakeholders. The co-operation can include e.g. participating in each other's events or other fora in the field of efficient sewage and sludge treatment, promoting the local voluntary commitments for stricter environmental practices and possible future projects.

#### **Fulfilling the HELCOM Recommendations in target**

Despite the substantial reductions in the loads of nutrients to the Baltic Sea since the 1980s, the latest assessments of the Baltic Marine Environment Protection Commission (HELCOM) still show a Baltic Sea affected by eutrophication in almost all assessed open water areas and almost all of the assessed coastal areas. To achieve the good status of the Baltic Sea, measures need to be ambitious and go beyond the levels of nutrient removal required by the EU requirements.

Upgrading of urban waste water treatment to stricter HELCOM standards<sup>1</sup> is a good example of the nutrient reduction potential. Given that basic waste water treatment infrastructure is in place, the main costs of implementing advanced nutrient removal are related to maintenance, for example equipment handling, supply of chemicals and know-how of running the processes. Advanced phosphorus removal is fast and cost-efficient way to combat the eutrophication problem, and in 2007 the Baltic Sea countries committed themselves to reach the HELCOM level for municipal waste water treatment, aiming for example at strict 0.5 mg/l concentration of phosphorus in the cleaned sewage of treatment plants for over 10 000 population equivalents. Local know-how and experiences are crucial for successful implementation of these ambitious standards.

The Project on Urban Reduction of Eutrophication, PURE, has implemented investments and operational fine-tuning, and created a forum for experience exchange for waste water treatment plants in Belarus (Brest), Estonia (Kohtla-Järve), Latvia (Riga and Jurmala) and Poland (Szczecin and Gdansk). The exemplary partners from Germany (Lübeck) and Finland (Mariehamn) have provided benchmarking of advanced sewage and sludge treatment practices and data management, respectively. PURE's concrete aim is an annual reduction of 300–500 tons of phosphorus load to the Baltic Sea. Also a comprehensive publication on sustainable sludge management has been compiled and sludge handling practices of the partners reviewed. The project activities and results highlight tangible local achievements in reducing the nutrient loading.

PURE has been successful thanks to its well established networks and close partnership. Compiled good practices and local success stories of environmental achievements that contribute to the implementation of the HELCOM Baltic Sea Action Plan (BSAP) have been recognized. The BSAP provides an effective tool to manage nutrient inputs to the sea, determining the maximum allowable phosphorus and nitrogen inputs – from each country and to each sub basin – which the sea can take and still be in a good status. The BSAP reduction

<sup>1</sup> HELCOM Recommendations 28E/5 "Municipal Wastewater Treatment" and 28E/6 "On improvement of on-site wastewater treatment of single-family homes, small businesses and settlements up to 300 p.e."

scheme's country-wise nutrient reduction targets may be met by fulfilling the HELCOM Recommendations for e.g. municipal sewage treatment, fish farming, agriculture and substituting phosphorus in detergents.

Increases in advanced waste water treatment costs require awareness raising on environmental objectives and gains from implementing additional treatment measures. Local and regional organisations, e.g. NGOs, have already been involved in such awareness raising campaigns within the PURE project. The knowledge that advanced phosphorus removal will be even cheaper if upgraded basic treatment technology is already applied shall be further promoted.

HELCOM will evaluate the progress towards reaching country-wise nutrient reduction targets in the Ministerial Meeting in October 2013 in Denmark. Not only tons of nitrogen and phosphorus are discussed, but also the specific results that the countries have achieved, paying attention also to the local level. If a side-event for local actors will be organised in the framework of the Ministerial Meeting event, PURE partners can share their experiences in advanced sewage treatment and fulfilling on their part the national targets in combatting eutrophication.

### **Baltic-wide commitments monitored by ministerial level**

In the last HELCOM Ministerial Meeting in 2010 in Moscow, the Ministers of the Environment of the Baltic coastal countries and the high level EU representative welcomed the work initiated by regional and local stakeholders and private sector groups in line with the HELCOM BSAP. They encouraged further regional and local initiatives in developing concrete plans, project proposals and measures to improve the status of the Baltic Sea. They also acknowledged that the HELCOM Baltic Sea Action Plan concepts and approaches have been used in several other international processes including the EU Strategy for the Baltic Sea Region.

The Ministers agreed in 2010 to enhance the implementation of the Eutrophication, Hazardous Substances, Biodiversity and Nature Conservation, Maritime Activities, and Financing Segments of the HELCOM BSAP. In the field of eutrophication and municipal waste water treatment this meant exchanging of information on best available treatment techniques and linking this work to the ongoing initiatives including the PURE Project and the relevant EU Strategy for the Baltic Sea Region activities, and showcasing of best examples.

In connection with the HELCOM Ministerial Meeting 2010 the first Baltic Cities Summit, "Reaching Good Environmental Status of the Baltic through local actions", was organized. There it was recognized that cities and municipalities have local and even regional authority and executive power, also in developing environmental practices. Many cities and their water companies have voluntary environmental programmes and strategies that exceed the national legal requirements and environmental permits. Existing networks of local competence provide important ground for sharing these practices between municipalities and water companies both within one country and at cross-border level. National authorities should act as links in both directions between the local and Baltic Sea wide (HELCOM) policy making.

Dissemination of local success stories on achievements in fighting eutrophication also through the HELCOM network leads to an efficient promotion of best municipal environmental practices. Positive profiling would be recognition of the many improvements carried out since the adoption of the HELCOM Hot Spot list of biggest polluters twenty years ago. Gaining acknowledgement on intergovernmental level implies environmental excellence at municipal level, but also creates additional competitive advantages; for tourist attractiveness, improving business conditions and living environment. HELCOM will continue engagement in local expert networks both to give the needed support and to learn from local solutions to critical issues on rescuing the Baltic.

### **PURE partners are**

*Baltic Marine Environment Protection Commission  
(HELCOM)*

*Brest Municipal Water and Wastewater Enterprise  
Vodokanal, Belarus*

*City of Mariehamn, Finland*

*Järve Biopuhastus, Estonia*

*John Nurminen Foundation, Finland*

*Jurmala Water, Latvia*

*Municipality of Gdansk, Poland*

*Riga Water, Latvia*

*Sewage Management Facilities Lübeck, Germany*

*Union of the Baltic Cities, Commission on  
Environment*

*ZWiK – Water and Sewage Company of Szczecin,  
Poland*