



# CITYWATER – Benchmarking water protection in cities

[LIFE11 ENV/FI/000909 Citywater]

## Report on Action C.1 Workshop 1

*Finding benefits in local water protection – How much is clean water worth and where to put your money? Helsinki Viikki Environment House, Viikinkaari 2a, March, 20 2013*

### BACKGROUND

The overall objective of the CITYWATER project is to implement and facilitate environmentally relevant and cost-beneficiary voluntary water protection measures in cities and municipalities in the Baltic Sea Region in order to improve the state of coastal waters. The project further aims at changing working procedures by increasing environmental communication and knowledge in cities and municipalities in the Baltic Sea Region in order to ensure continuous work for water quality improvement of local waters. The objective of Action C.1 is to assess the environmental impact and cost-benefit ratio of different water protection measures in perspective of local waters and the Baltic Sea. Furthermore, Action C.1 should monitor the impact of project implementation actions, especially the storm water construction solutions.

The project application states that the activities in this action are initiated by Workshop 1, which has the objective of synchronizing the needs for the environmental impact and cost-benefit analyses for the entire project as well as choosing potential water protection measures to be included in the environmental impact and cost-benefit analysis.

### WORKSHOP

The environmental impact and cost-benefit seminar was hosted by the Coordinating Beneficiary City of Helsinki March 20<sup>th</sup> 2013. The purpose of the workshop was to synchronize the needs of the entire project considering this action as well as choosing potential water protection measures to be included in the environmental impact and cost-benefit analyses. The workshop day started for project partners by a steering group meeting (minutes in a separate document) after which lunch was served for project partners. After lunch the actual workshop started and was directed besides to partners, also to associated civil servants and invited speakers.

#### Session 1: What do you need to know to put a price on nature?

The first session of the workshop gave a background to the purpose of the day and opened the concept of the cost-benefit analysis as well as especially the willingness to pay part in it. Director of Environmental Protection (City of Helsinki) **Päivi Kippo-Edlund** welcomed all workshop guests to The City of Helsinki Environment Centre by her presentation. Kippo-Edlund further talked about the aims of the environmental politics program developed by the Environment Centre. With reference to the EU Marine Strategy Framework Directive, the coastal waters outside Helsinki are in good quality by 2020 using additional measures according to the water management plan and



nutrient discharges will be even more reduced and recycled than today. Further, the oil spill clean-up and control by the city will significantly affect the amounts and extent of oil that reaches inhabited areas and overflooding from combined sewer systems is reduced. Kippo-Edlund ended her presentation by accentuating the importance of local actions and the necessity of taking into consideration peoples differing attitudes in the Baltic Sea region. Furthermore, she underlined that clean coastal waters affect welfare of the citizens and gives a chance to act as a forerunner.

There after project expert **Kajsa Rosqvist** welcomed the guests on behalf of the CITYWATER project and talked about the background and aims for the environmental impact and cost-benefit work within the project. The idea of making an environmental impact and cost-benefit analysis was born to serve a better spreading of good practices for cities regarding new water protection measures in addition to the Baltic Sea Challenge. The message of the Baltic Sea Challenge has been spreading well in Finland but despite good examples of numerous actors joining and their action plans with innovative measures, actors especially outside Finland have been calling for better proofs for the actual impact and benefit of the suggested water protection measures. The environmental impact and cost-benefit analysis will answer this call.



Coordinator of Sustainable Development **Marko Nurminen** from the City of Lahti was the first key



note speaker for the workshop. Nurminen opened the steps of work related to a cost-benefit analysis and concretized with examples from two flood protection cases made within the Helsinki region by the consultant company Ramboll. Nurminen stressed the importance of a well defined project, since even in quite straight forward and geographically well-defined cases the cost-benefit analysis can turn to a tedious method. He also recommended to be as transparent as possible in categorizations, quantifications and monetizing, and to use peer networks and possible already existing material.

The second key note speaker of the day was Research Scientist **Janne Artell** from MTT Agrifood Research Finland, who spoke about citizens' willingness to pay for reduced eutrophication. Artell emphasized that a comprehensive cost-benefit analysis considers the whole chain of effects measured in terms of money, i.e.



natural processes, abatement measures and their costs and welfare effects. Whilst the objective is to assess the monetary benefits of reducing eutrophication in the Baltic Sea, there is no price for eutrophication or water quality as such, while environmental valuation methods are needed. Artell exemplified his presentation by studies done within the BalticSTERN project. He concluded by stating that the Baltic Sea carries significant value to the region's population, also to those not living by the coast, and that assessing local values for additional improvements requires work.

## Session 2: Hands on – examples of local nutrient abatements

After a short coffee break the workshop continued with the second session in which the purpose was to present water protection measures in practice within the Helsinki capital area. Additionally, the aim was that partners inspired by the presentations would discuss water protection measures to be chosen for the environmental impact and cost-benefit analysis. The first speaker was Researcher **Katja Pellikka** from the City of Helsinki Environment Centre, who spoke of the environmental impact and management of storm waters in Helsinki. Katja mentioned research carried out about the differences in concentrations of nutrients and heavy metals in stream water and storm water. Further Pellikka presented the Eco-Viikki, Kuninkaantammi and Vallilanlaakso storm water management solutions in Helsinki. The different kinds of solutions brought up were green fingers, storm water wells, green roofs and houses, trails without asphalt, retention ponds, meandering, wetlands, rain gardens, meadows and swales.

During the discussion after Pellikka's presentation the Tallinn City partners told about their thoughts for the storm water management solution to be built and its connections to the environmental impact and cost-benefit study. One possibility is to construct a better management system for the Botanical Garden in Tallinn, which would be beneficial due to present flooding problems, but further give great opportunities for visibility and dissemination of the solution due to the attributes of the site. In Turku one possibility would be to develop a storm water solution

model for new housing construction sites. In Helsinki one of the suggestions for the storm water constructions is a wetland system close to Mustapuro stream. In the view of the environmental impact and cost-benefit analysis all of these possibilities need to be held potential and sorted out more in detail.



The next speaker was **Tommi Fred** who is Head of Department in the Helsinki Region Environmental Services Authority told the audience about the waste water treatment collection and treatment in the Helsinki capital area. He gave a background on the Helsinki Region Environment Authority which was formed by consolidating the waterworks of Espoo, Helsinki, Kauniainen and Vantaa as well as the Helsinki Metropolitan Area Council's waste management (inhabiting about 1 million persons). Waste waters are treated in Viikinmäki and Suomenoja waste water treatment plants. Combined sewers are found in the city





centre of Helsinki but slowly replaced by separate sewers or other storm water management systems. The nutrient levels in treated water are clearly lower than required in environmental permits, and additionally a new treatment plant, Blominmäki, is being built.

The discussion considering environmental impact and cost-benefit analysis related to waste water treatments was kept short since the time was running out. However, the public was concerned about the combined sewers and suggested also that more dry toilettes should be used. The capacity and level of cleaning in waste water treatment plants in several Baltic countries should be improved, and thus a cost-benefit analysis in this perspective could be motivated.

The last speaker of the day was project manager Päivi Islander from the City of Helsinki Public Works Department who presented water protection measures in agriculture within the City of Helsinki. Islander showed how that fields owned by the City of Helsinki have been changed to model fields as far as agricultural water protection actions are concerned. Measures taken are e.g. that fields will be planted by the direct sowing method, fertilizer levels are reduced to match realistic harvest targets and phosphorous levels on land are taken into account and calculated to determine the need for fertilizers the following year. In addition a sufficiently wide unfertilized and uncultivated protected area is left uncut between the field and the water system and if the field is repeatedly flooded it is not cultivated at all. In conclusion, Islander stressed that the city has good possibilities through the landlord role to set special rent agreement requirements in terms of water protection for those fields that the city owns.



The audience discussed further the possibility of making a cost-benefit analysis on the role of the city as a landlord. This

opportunity was held possible and would serve the objectives of the cities and the project. In the end of the workshop, also the possibility to include maritime activities or port waste water discharge facilities was mentioned as possible targets for the environmental impact and cost-benefit workshop.

After the workshop, the participants were served refreshments and snacks. During later discussions, it was suggested that water protection measures to be included in the environmental impact and cost-benefit analysis should touch upon some of the themes storm water management, waste water treatment in Baltic countries (possibly also in view of Poland and Russia), agriculture on city owned fields, where the city has the landlord role or maritime and port activities.

*Pictures Tina Nyfors, text Kajsa Rosqvist*

All workshop presentations and this report are found at the City of Helsinki Environment Centre by following the link: <Y:\yhteiset\Citywater\Tapahtumat ja kokoukset\4. Kustannushyöty seminaari>.

