

Report of the

# GREEN CRUISE PORT

## Sustainable Development of Cruise Port Locations

**Workshop “Green Cruise Port Innovative Waste Management and Reception Facilities” for the GreenCruisePort project**

**in Helsinki, Finland 10.-11. November 2016**

*Organized by the Port of Helsinki*

### ***Introduction – the Green Cruise Port project***

The first workshop seminar organized under the Green Cruise Port project was held in Helsinki, Finland on Thursday 10<sup>th</sup> and Friday 11<sup>th</sup> of November 2016 on “Green Cruise Port Innovative Waste Management and Reception Facilities”. The workshop is part of the work package 2: Smart Cruise Terminal Buildings & Innovative Reception Facilities. The seminar included presentations of different actors in the port waste management sector, workshop session and site visits. First site visit was the new West Terminal 2 at the West Harbour in Helsinki and the second the Viikinmäki wastewater treatment plant where waste waters from vessels are conducted from the Port of Helsinki.

The first seminar day started with the opening presentation of Mr. Ingo Fehrs from Hamburg Port Authority about “Development of sustainability in cruise port locations”. He briefly introduced the Interreg Baltic Sea Region Green Cruise Port project and the purpose of the workshop. The aim of the Green Cruise Port project is to “elaborate a multidimensional strategic approach for a sustainable and qualitative future development for cruise shipping in port areas”. The project had its opening conference in Hamburg 2016 and the closing

conference will be held in Tallinn 2019. The project divides into three different thematic work packages: Sustainable Energy Supply & Innovative Solutions for Emission Reduction, Smart Cruise Terminal Buildings & Innovative Reception Facilities, and Smart Cruise Port Traffic Solutions and Economic Effects.

The workshop seminar in Helsinki concentrated on the second work package and its aim is to adjust more smart solutions to waste management in ports and to help cruise ports in becoming more environmentally friendly. In order to reach these goals and while there is an ongoing pressure of bigger cruise vessels calling ports cooperation is needed between Baltic ports, cruise operators and other actors related to waste management as well.

Agenda, list of participants and presentations are presented in annexes I, II and III.

### ***Waste management from different actor's perspectives***

#### *Waste management and circular economy from EU's point of view*

The next speech was given by the current MEP of Finland, Ms. Merja Kyllönen about the environmental challenges of the maritime sector in the Baltic Sea Region from the European Parliament point of view. Due to her busy schedule she gave her speech via video from Brussels. The presentation concentrated on the growing mobility in the Baltic Sea area (such as the increasing amount of cruise ships) that creates jobs but also requires consideration of the environmental aspects. She raised the idea of circular economy that EU has been implementing to its politics the recent years and that this idea was to be implemented also to the maritime sector. In the name of circular economy wastes produced should rather be seen as a resource instead of waste.

Even though significant actions towards environmental protection and improvement such as sulphur and the upcoming nitrogen emission control areas are made in the Baltic, Kyllönen thinks that the UN Climate Change Conference in Paris in 2015 did not succeed to be ambitious enough due the fact that maritime traffic was left out of the negotiations. Therefore she sees that the decisions of EU have an important role in the Baltic area so that the ports

would have the certainty to invest in the circular economy and environmental protection in practice.

#### *Waste management from the companies' point of view*

Another point of view to the cruise vessel waste management was presented by Mr. Jari Jokela from Evac Oy that equips vessels with waste water management systems. According to Jokela the wastewater treatment solutions that Evac Oy produces are advanced due their high removal rate of nutrients from the grey and black water. Evac Oy is equipping the majority of new vessels that is built at the moment according to Jokela.

From a waste management company's point of view there was also a presentation of Mr. Toni Harjula about Ekopartnerit to whom Port of Helsinki is sending the shipborne hazardous wastes. Ekokem that Ekopartnerit is part of has built a new concept "Circular Economy Village" that makes it possible to return the used material into use again. In the process household, business and industry wastes are separated with separation technology. These separated fractions are then treated as energy waste to produce energy, as biomaterial to produce biogas, fertilizers and ammonium water or as plastic material to be reused as raw plastic material. The utilization rate of community waste will be as high as 98%. According to Harjula circular economy is almost reality, and Ekopartnerit will be finally able to "close the loop" of the circle in 4-5 years. In order to circulate the waste Ekopartnerit is also selling materials that are recycled to its customers.

#### *Waste management from the ports' point of view*

Two presentations were held about cruise waste management in practice. The first presentation was given by Port of Helsinki's Harbour Master Mr. Antti Pulkkinen on how cruise ship waste management services are put into practice in the Port of Helsinki and another was held by Head of Quality and Environmental Management Mrs. Ellen Kaasik from Port of Tallinn's point of view.

Port of Helsinki conducted an analytical study "Port Reception Facility Cost Efficiency" as part of the Green Cruise Port project and it was presented by Quality and Environmental

Manager Mrs. Aino Rantanen. The study concentrated on the cost structure of cruise vessel waste management and also on what would be those waste fractions that would most easily and most cost-efficiently be separated from the mixed waste that cruise vessels produce. The study was conducted from the point of view that there are space limitations at the quays and little to no possibility to impact to the received waste especially due the “no special fee” system that Port of Helsinki uses.

The results of the study show that labor is the most expensive segment of waste management in Port of Helsinki. Other notable cost are the mixed burnable waste and the international catering waste due the Finnish legislation. The most cost-efficient waste fraction to separate from the mixed waste would be plastic such as PET bottles and plastic wrappings. Also it would be highly beneficial to separate energy fraction from mixed burnable waste to get both environmental and financial benefits. The need for better information flow between port and vessel crew was also seen in the results. There were also a following question of benefits of a possible regional waste management system in the Baltic Sea stated in this study.

### **Workshop in small groups**

Two topics were discussed in the workshop session by participants divided into two groups: communication and co-operation between vessels and port (about PRF and waste landing) and also how could waste re-use possibilities be improved in the Baltic Sea Area.

About the communication topic there were discussion that the information flow from the port to the staff on board is very long and should be improved. The waste advisor system that Port of Helsinki uses in the cruise season to guide the cruise vessels in their waste management in the port area was thanked for increasing the communication between the port and the vessel. The system was also suggested to be extended to weekends also. There was also discussion about the usefulness of data automatization for example in the case of handling waste notification forms more efficiently and also in order to decrease repeatable manual work.

“Waste tourism” of vessels was a topic that arose in several presentations and also in the conversations of the workshop session. There were also discussion about the limits of no-special-fee system such as that in fact there is no need to reduce produced waste on board if thinking on the economical point of view. The second workshop group that discussed about enhancing re-use possibilities in the Baltic Sea created an alternative regional waste management system to the area in order to tackle these challenges. In their vision every port of the Baltic Sea took part in a common waste fee system where every vessel would pay a waste fee to a common fund and wastes could be landed to a port of the vessels choice. The receiving port would be the one paying the costs of handling the wastes but the costs would be covered by the common fund. Questions that arose from this vision are that who would be the organizer managing the fund and how would the current legislations allow this kind of arrangement.

### **Plans for the new cruise quay at Hernesaari, Helsinki**

The second workshop day started with a presentation of the Planning Manager of Port of Helsinki, Mrs. Satu Aatra, who presented the near future plans in Hernesaari cruise harbor in Port of Helsinki. In the Hernesaari quay there are going to be seen major changes in the near future due the increasing number and size of cruise vessels expecting to call the port and also due the new master plan of the city of Helsinki. There is pressure to build a lot of new apartments in Helsinki and therefore the former harbor areas are going to partly be changed into residential areas in Hernesaari and also in West Harbour. The harbor and near areas will see changes and new challenges in the future. The plans are meant to be implemented in the year 2019.

### **West Terminal 2 project at the Helsinki West Harbour**

The ongoing project “West Terminal 2” at the Helsinki West Harbour aims at developing the Harbor area and as a part of the project a new passenger terminal will be built. The project was presented by Project Manager Ari Parviainen from the Port of Helsinki. The project is co-funded by the European Union in TWIN-PORT I and II as a response to the increasing traffic between the ports of Helsinki and Tallinn. The new terminal will be serving its first travelers in early spring of 2017.

### ***Field trips***

On the second workshop day the seminar group headed to the West Harbour by bus and had a short sightseeing tour in the former harbor area Jätkäsaari that is going to be renewed into a residential area in the coming years. The construction site in the West Harbour and the new passenger terminal that will be opened in the spring 2017 was presented to the group.

The next stop was at Viikinmäki wastewater treatment plant where the group could see how the municipal and also at the same time the cruise wastewater is treated in Helsinki. There are several different procedures that are given to the wastewater so that it can be led into the Baltic Sea: first it is physically treated so the biggest particles are separated, then it is biologically treated with bacteria and thirdly physically treated again by filtering.

### ***Conclusions of the workshop in Helsinki***

In the coming years, we are about to see new environmental regulations and goals in the Baltic Sea region that different actors need to take into consideration. One challenge is the large amount of actors working around Baltic Sea region, that all have their own operational requirements and objectives. This workshop was held to create bridges between different Baltic Sea actors. One aim was to recognize the interfaces these actors and ease their communication and co-operation. This workshop worked as a platform in sharing ideas of how to bring these new regulations and expectations into action.

### ***Circular economy and utilization of wastes***

As the current MEP of Finland Merja Kyllönen pointed out in her speech, EU is working towards circular economy, aiming for a better reuse of waste materials. From this perspective it is important to recognize also the re-use possibilities of different ship-borne wastes in the maritime sector. The EU Directive 2000/59/EC on port reception facilities for

ship-generated waste and cargo residues is being updated at the moment and the EU Commission will give its proposal at the earliest in the spring 2017. In order to actualize the circular economy idea in the ship waste management field there is a growing need of every actor to understand their position in the whole waste management chain and develop their actions towards more effective way of collecting and utilizing current but also possible new waste fractions.

#### *Information flow and transparency*

Another concern that came up in the workshop is the lack of standardization in the information flow between the actors who are involved in the Baltic Sea maritime waste management sector. Due this there are much overlapping work that vessels, ports and national administrators do. Slow information flow was also recognized as an important improvement point in the study that Port of Helsinki conducted and presented in this workshop. According to the workshop conversations one solution could be creating one digital platform for waste notification purpose for the whole Baltic Sea region to establish more organized co-operation between the different actors. That kind of platform would also create more transparency into waste handling that would also help to see the whole picture of waste flows in Baltic area.

#### *Regional perspective to waste management in the Baltic area*

The soon-to-be updated directive 2000/59/EC might result in the collection of broader spectrum of waste fractions in the harbours to get more materials into circulation. That is also something harbours have to be prepared to. One of the conclusions of this workshop was that the co-operation between ports should be enhanced in making sure that there will be suitable infrastructure for ship waste reception that will respond the vessels' needs and EU's requirements in the Baltic Sea region. Along with the workshop discussions the possibility of a regional cruise waste management plan was also recognized as a potentiality that could help ports and vessels in better environmental performance.

As mentioned earlier, this workshop was held to be one arena of learning and sharing best practices but also for discussing of those practices that do not currently work as well as

hoped. For example different interpretations of the no-special-fee system concerned different actors as waste management costs were seen to distribute unequally between different ports in the region at the moment. The same results also are shown in the study the Port of Helsinki conducted. One conclusion of the discussion in this matter was that the no-special-fee system was to be seen as one phase before the creation of a more workable waste fee system. Therefore there is a need of renewal of the waste fee systems in the Baltic Sea Area.

As a conclusion, the workshop of Green Cruise Port project in Helsinki was very fruitful. Waste management topics of cruise vessels were covered at the EU level but also from the ports' and waste management companies' point of view. The major topics discussed during these two days were the importance of cooperation of the Baltic ports, the need of more efficient information flow between different actors in the cruise waste management and regional perspective to waste management, all in the framework of the environmental strategies of EU.