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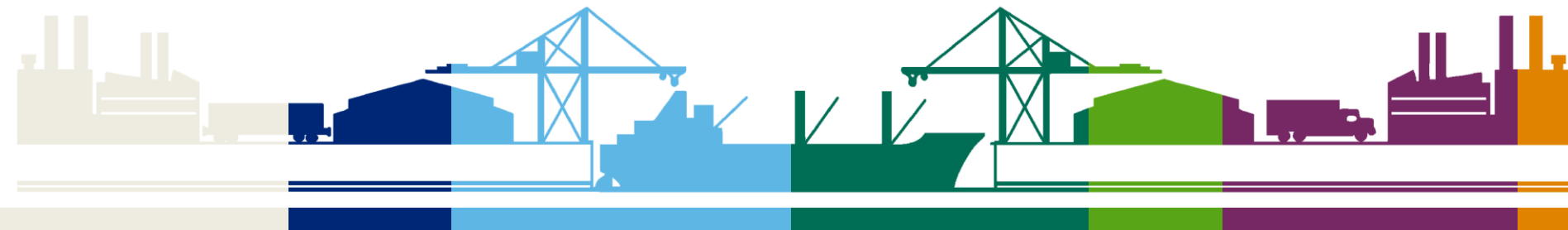
Ports' environmental management in the Baltic Sea

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Olli-Pekka Brunila

UTU



Olli-Pekka Brunila



Project manager

M.Sc. LUT, B.Sc. KUAS

University of Turku, Brahea Centre, Centre for Maritime Studies, Kotka Unit

olli-pekka.brunila@utu.fi, +35840 485 5710



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Content of presentation



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- Conclusion





Introduction



Background



- Environmental effects caused by port activities can be controlled and decreased in several ways.
- Legislation is one of the most significant driving forces that lead the ports to invest in environmental actions.
- International, regional and national legislations regulate port operations and set different kinds of economic incentives or disincentives to the operation.
- Ports may also find motivation to reduce their environmental effects voluntarily from societal pressure or from their own driving forces, in order improve the port operations or in order to gain competitive advantage.
- Ports can go even further in managing their environmental effects than required by law by engaging, for example, in corporate social responsibility (CSR), developing best practices and introducing certifications.

How environmental management is related to safety and security issues?



- Incident, accident or near miss can also happen in the port area.
- Loading and unloading cargo can cause risks to humans, nature or infrastructure.
- According to study there might be some fire or other errors on board when ships are in port.
- Legislation, certificates, best practices and voluntary actions in port and port operations can decrease the potential risks or failures.
- If still something happens certified proceeding like ISO management systems allows smoother operations when clearing the accidents or near misses?



Research Questions and Methodology



- The aims of the research was to study what kind of environmental assessment and management systems and practices are used in the ports in the Baltic Sea region, and compare those practices. The aim was also to find out how the practices differ from one port to another, and from one country to another.
- The study aimed to answer the following research questions:
 - How do the ports aim to assess and manage their environmental impacts?
 - How do the different environmental assessment and management practices affect ports' competitiveness?
 - How does the EU and national legislations affect port operations?
- The research comprises of a theory part, questionnaire, and interview studies.





Assessment and Management of Ports' Environmental Effects - Questionnaire Study



Questionnaire Study – Background Information



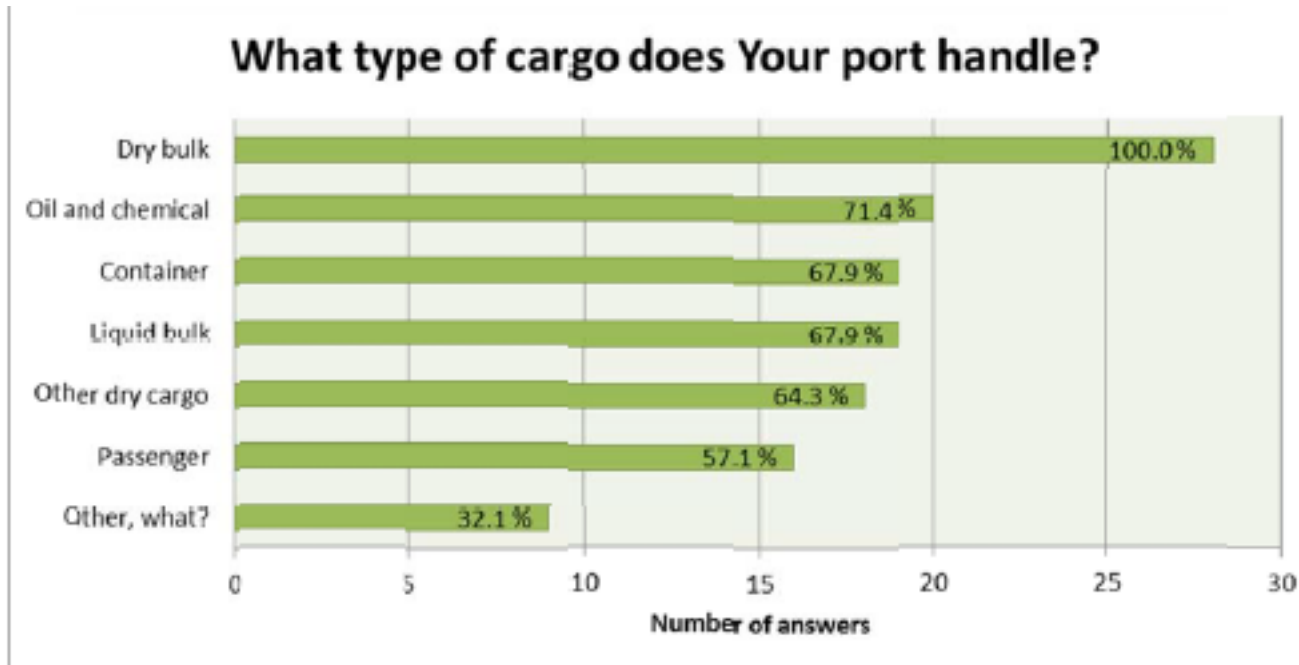
- An e-mail questionnaire study was conducted during January and February of 2015.
- The questionnaire study was carried out in English using the web based system “Webropol”.
- Ports whose cargo handling were over than 0.5 million tonnes per year and location BS were invited to answer. No other restrictions!
- The questionnaire was sent to 188 recipients from all countries surrounding the Baltic Sea.
- The questionnaire received answers from 28 different ports. The respondents were from Denmark, Estonia, Finland, Germany, Latvia, Poland and Sweden. 16 of the respondents wished to remain anonymous.



Questionnaire Study



- The questionnaire was mainly aimed at environmental or quality management personnel, specialists or other management level personnel.
- First the ports were asked, what kind of cargo their port handles.



Questionnaire Study



- The ports were also asked what kind of measurements they perform.

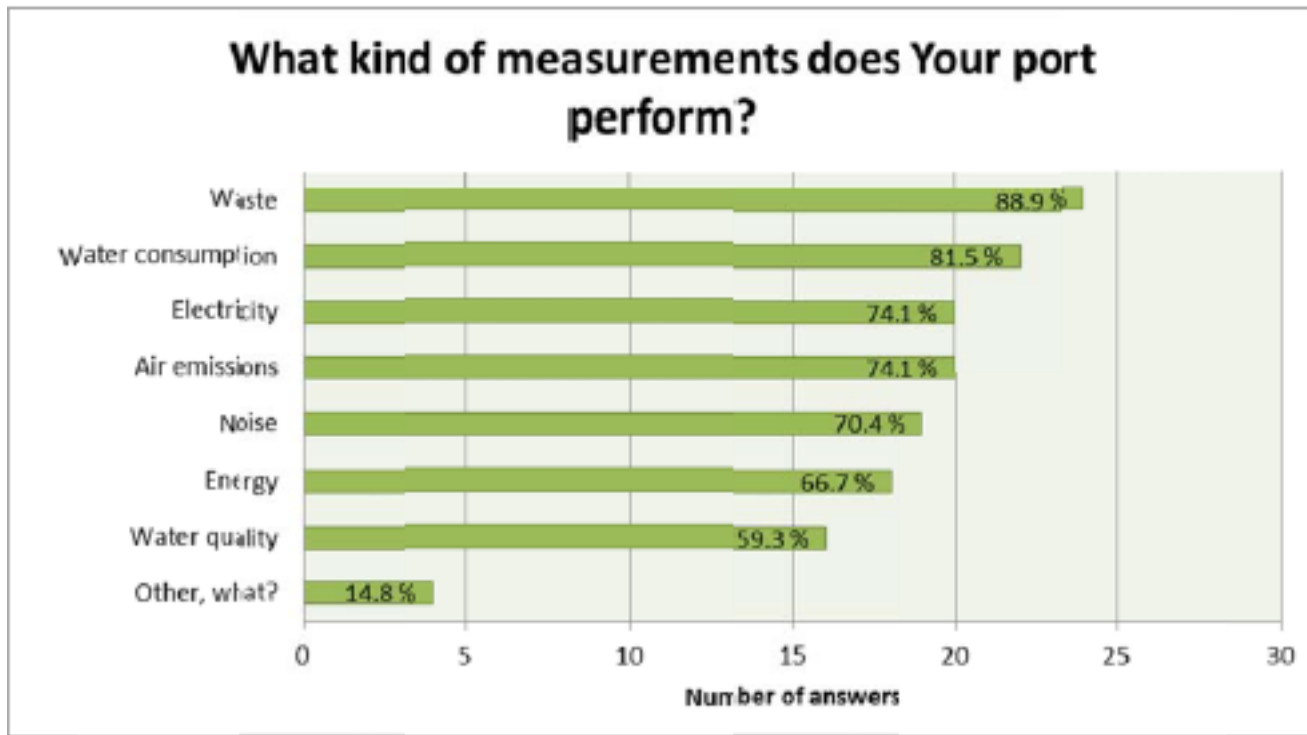


Figure 3.2 The different kinds of measurements the responding ports perform. More than one answer was allowed. This question received 27 answers.



Questionnaire Study – Port related legislation



- During the questionnaire, the responding ports were asked about their views on the national and EU legislations.
- The first question was whether the ports consider the national legislation to be stricter than the EU legislation in their country?
- Over half of the respondents (approximately 54 %) replied that the national legislation is stricter in their country.
- Correspondingly 46 percent told that the national legislation and EU legislations are at the same level.
- None of the respondents saw that the national legislation was less strict than the EU legislation.



Questionnaire Study – Port related legislation



- The respondents were also asked whether they consider the EU legislation to be highly restrictive?
- Approximately 36 % respondents answered yes, and 64 % answered no.
- The respondents were also asked to elaborate their answers, and thus we received 13 arguments on the strictness of EU legislation?
- Three of the respondents who considered the EU legislation to be highly restrictive referred to SOx limitations in the Baltic Sea SECA area as an example of highly restrictive EU legislation.
- The problem with the “sulphur directive” is that it is not applicable in the whole EU area.
- Also the directive might cause a modal shift from shipping to road and rail transportation, and as ship operators install scrubbers, which causes an increase in consumption of the fuel and, consequently, an undesired increase in CO2 emissions.



Questionnaire Study – Port related legislation



- The ports were also asked whether they would operate in the same environmental level without the requirements of legislation?
- Over 82 percent of the respondents (23 ports) told that they would operate at the same environmental level nevertheless. Only 5 respondents (18 %) told that they would not.
- 12 respondents established why their port would operate in the same environmental level, and half of those answers were somehow related to corporate social responsibility (CSR).
- Ports consider themselves to be responsible for the workers' and local residents' health and wellness, and they know their role as a part of the community.



Questionnaire Study – Management of Ports’ Environmental Effects



- Ports were also asked whether they apply some kind of best practices and if so, what those best practices are?
- 18 (approximately 64 %) of the responding ports replied that they do apply best practices. Some of the best practices used in the ports are listed below as an example:
 - Environmentally differentiated harbour fees (for example in Sweden)
 - Exchange of information with other Baltic Sea ports
 - Using the latest best environmental techniques
 - Best practices based on the ESPO Green Guide
 - Dimming lights
 - Environmental issues included in the mandatory Port Safety Training Gas recuperation system in liquid chemical terminal
 - Dust-free loading system of dry bulk



Questionnaire Study – Management of Ports' Environmental Effects



- The ports were also asked about the standards and certificates they apply.

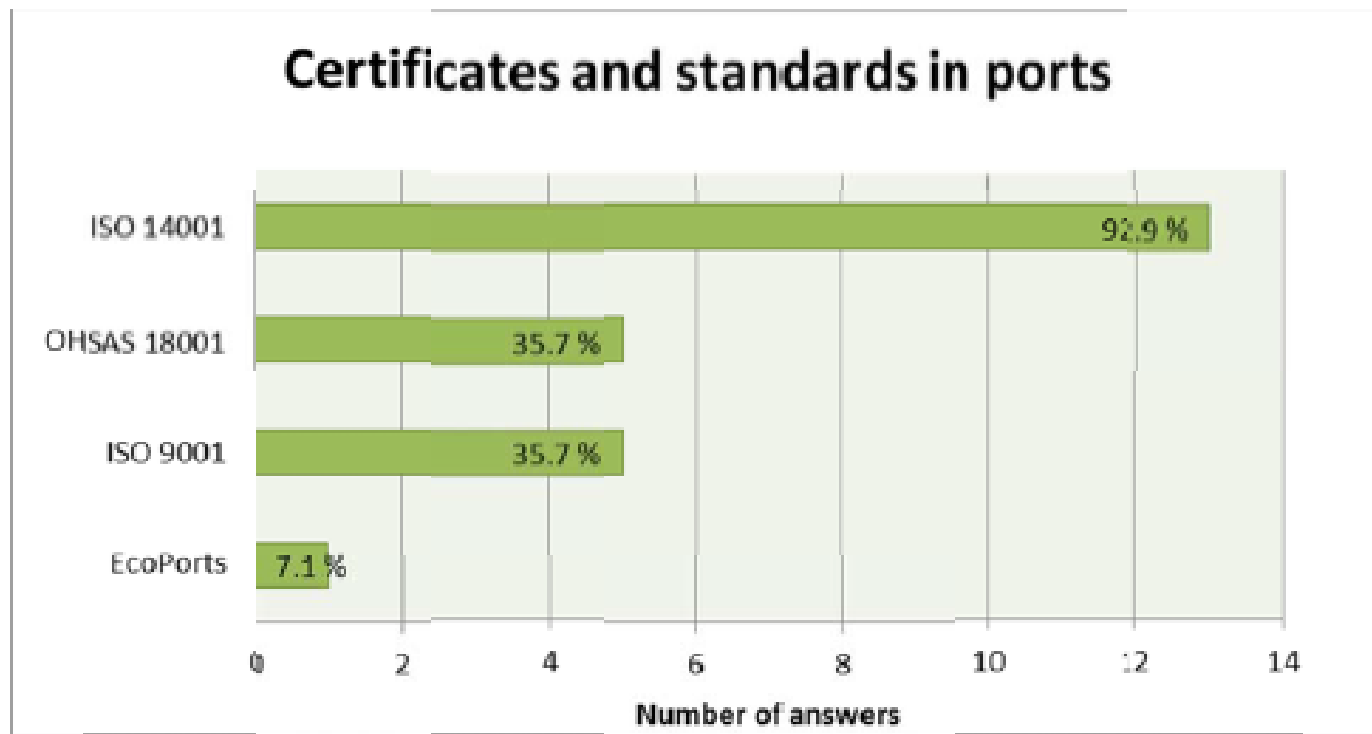


Figure 3.3 The certificates and standards in use in ports. More than one answer was allowed. This question received 14 answers.



Questionnaire Study – Management of Ports’ Environmental Effects



- During the questionnaire the ports were asked, whether they have participated in environmental projects and/ or other voluntary actions?
- Many of the ports had participated in projects and other voluntary actions, such as:
 - Voluntary real-time air emission control and measurements of air quality
 - Voluntary measures to reduce noise emissions
 - Participation in different projects
 - Participation in local environmental networks and cooperation with local authorities on environmental issues
 - Differentiated port fees
 - LNG bunkering facilities and terminals are being built
 - Management of NATURA 2000 sites
 - Waste management and sorting of wastes.



Questionnaire Study – Management of Ports' Environmental Effects



Positive effects of voluntary environmental actions

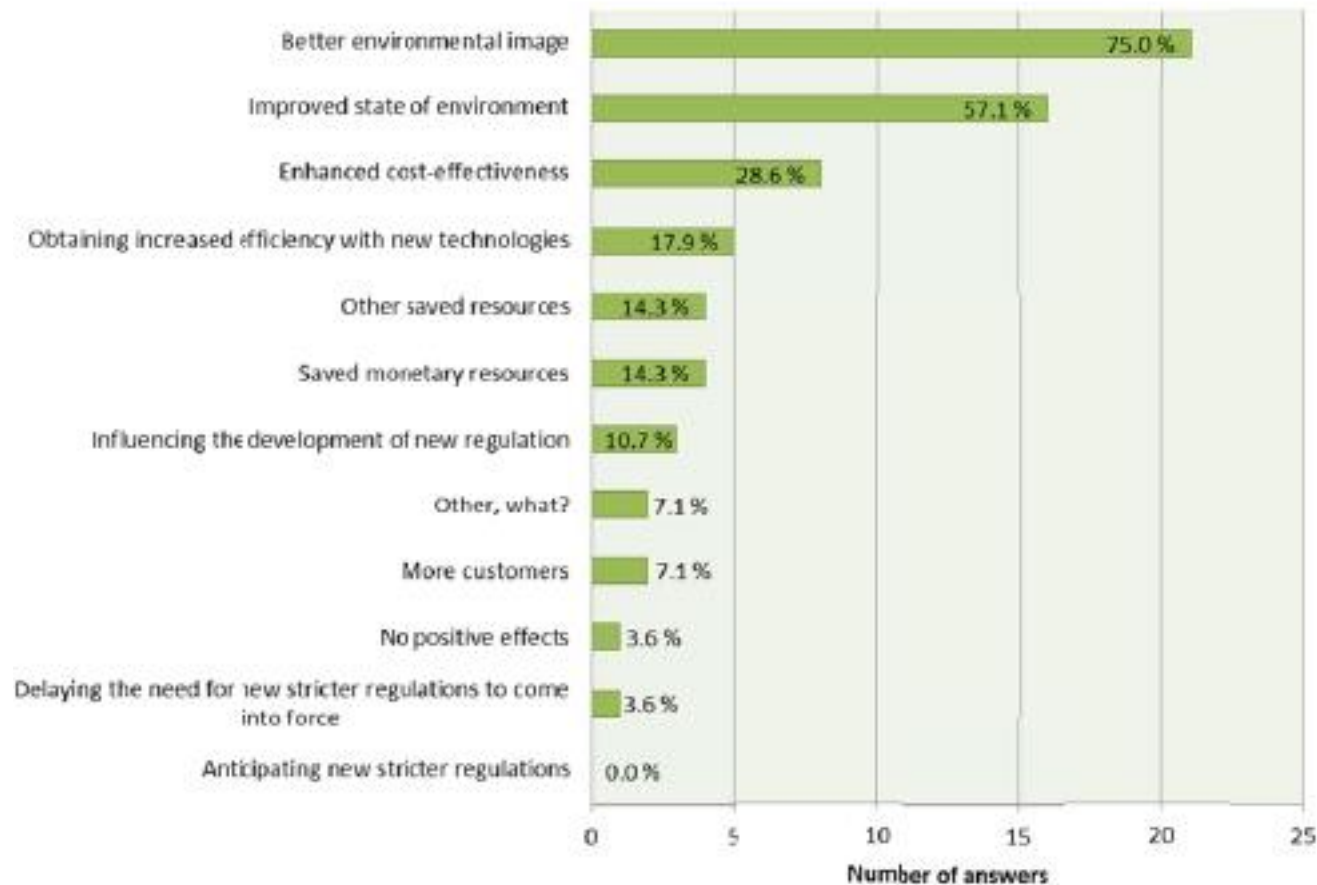


Figure 3.4 The positive effects that the voluntary actions of ports can have. The respondents were able to choose 1-3

Questionnaire Study – Management of Ports' Environmental Effects



Negative effects of voluntary environmental actions

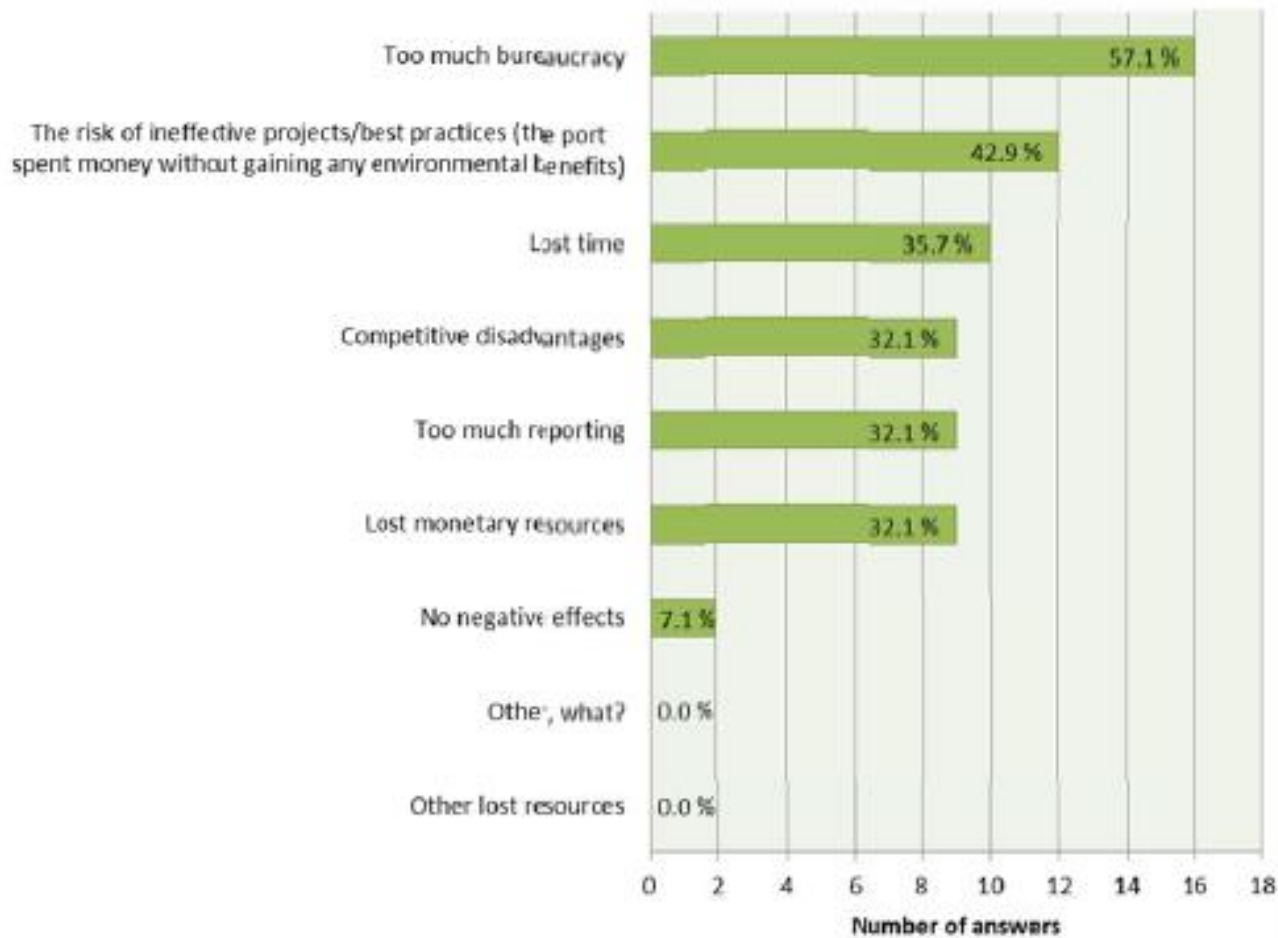


Figure 3.5 The negative effects that the voluntary actions of ports can have. The respondents were able to choose 1-3 most important alternatives.



Conclusions



Main results and conclusion of this study



- Based on the questionnaire and interview studies, it can be said that ports in the BS area consider environmental issues to be important, and value their own environmental image.
- Nevertheless, when it comes to competitive advantage, B2B and other issues not related to the environment have a greater role.
- Factors that affect the competitiveness of the port are rather the port location and the port infrastructure, such as the depth of the waterways, road and railway connections to the port, shipping routes and connecting ocean lines, and available port facilities.
- These issues affect the port competitiveness more than the ports' environmental image.



Main results and conclusion of this study



- However, in general, all ports that participated in this research were committed to environmental issues and complied with environmental legislation.
- Some ports did also voluntary environmental initiatives and applied best practices in order to improve their environmental image, increase their operation cost-effectiveness, and also purely in order to improve the state of the environment.
- Several of the participating ports stated that they would operate at the same environmental level even without environmental legislation.
- The common goal of the ports was to strive for cleaner ports and a clean Baltic Sea.



Main results and conclusions of this study



- Environmental permit for port operations is required in the Finnish and Swedish ports, but not in the Central European ports.
- The EU ports need permits for certain operations, such as, dredging and deposition of sediment and disposal of sediments.
- However, the requirements for the measurement of emissions are generally at same level.
- In some cases this “authorization jungle” especially in Finland may twist the competition between the European ports and the ports of the Baltic Sea.



Main results and conclusion of this study



- Even though a lot of environmental data is collected, the biggest problem is the comparability of the collected data. There are no systems or instruments where emissions could be compared between ports.
- The amount of environmental information is sufficient, yet reporting methods vary between ports.
- There are differences in units and codes, and in some cases the information is insufficient and even at some points unreliable.



Main results and conclusion of this study



- In order to get the necessary environmental information, the ports have to measure their emissions and use different calculation models and different kinds of other computing systems.
- It is not free to get the parameters for reporting from these systems; sometimes it is expensive and time consuming.
- When the environmental information is compiled, used and collected, cost-effectiveness and the size and type of the organization must be taken into consideration. Small ports-Big Ports.
- It is important to collect all the necessary data and fulfill the existing obligations of the environmental permits.



Main results and conclusion of this study



- In addition, if there are changes in operations or new cargo, the environmental permits must usually be updated.
- Because of the operational environmental permits, the ports are not able to react to new business opportunities, such as new cargo flows, as fast as they should, which can affect the ports' competitiveness.
- Thus, it would be more rational to define general operating instructions, rules and limits in the environmental permits instead of defining the specific cargo types that can be handled.
- Since some port operators are required to go through strict environmental permit processes, it is possible that the permit processes distort the competition between ports.



Main results and conclusion of this study



- In order to achieve better results in environmental protection, to support the ports' voluntary environmental initiatives and simultaneously maintain the port competitiveness and equality, all EU member countries should have a unified legislation for ports.
- In practice, this would mean that every EU member country should apply the same environmental legislation and procedures, and emission calculation systems.
- The unit for emission measurements could be cargo volume tonne per produced emissions tonne. This would also enable the comparison of emission levels between ports.





Thank you!

Any questions?

More information about the project and its results is in the printed report.

