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SOLUTIONS FOR SUSTAINABLE NAVIGATION IN SOUTH EAST EUROPEAN WATERWAYS. ECOPORT 8 PROJECT

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A little less than three millennia have passed since ancient merchant ships raised their anchors and started to sail from the Aegean and Asia Minor to the Adriatic and Eastern Mediterranean – as well as to the Black Sea coasts. Sailing mile after mile, year after year and coast after coast, a living network of trade, culture and civilization was born and started to grow from Italy over the Balkans to the western Black Sea. This network – which grew from navigation into a true, unique and significant culture – has never ceased to exist ever since.



Figure 1. Map of ECOPORT 8 ports – mainly along European Transport Corridor VIII (Picture from from www.ecoport8.eu)

Even more, since Ancient Greek, Roman and Byzantine times it has crossed and developed continuously, witnessing also Norman, Arab, Ottoman but also Soviet rules – for at least some parts of the area. Nowadays the common past and history have been reunited under the new era of the European Union – to which all the countries in the area are either members or associated.

The last century witnessed also the dramatic increase of human pressures on the environment, with more than half of the global population being concentrated along the coast. And – as always in time – shipping has been one of the most important activities along the

coastal zone. The overwhelming human pressures on the coastal environment have demanded action in order to stop ecological destruction. Plans for environmental protection started to be developed and various local ideas have been translated into reality in some parts, while the difficult recent economic past for some countries from the area have not allowed to keep pace. A common ecological framework for navigation and port activities has become acutely necessary for the entire area.

This is why ECOPORT 8 was born – as a joint South East European effort to develop a common set of rules. These rules aim to allow the sustainable development of port activities by

soundly ensuring environmental quality in a coherent and regionally sound way. The project – developed within the framework of the SEE (South East Europe) Programme – coordinated by the European Union Directorate General (DG) REGIO-, groups together universities, research institutes and harbor administrations from Italy, Montenegro, Albania, Greece, Bulgaria and Romania, covering the European Transport Corridor No. 8 (see Fig. 1), not by accident coinciding with Emperor Constantine’s Road from Rome to Byzantium.

So – what is it all about? The greater goal of ECOPORT 8, is to protect the coastal-marine environment while allowing and improving shipping and harbor activities in South East Europe, can be split into the following main objectives:

- Improve the quality of ports, placing the prevention of pollution and preservation of natural resources in port areas and nearby coastal zones as pivotal to the maritime system.
- Focus towards an environmental certification for PAN-EU corridors and port networks in all their complexity, through the drawing up of shared and common guidelines (according to UNI EN ISO 14000 standards and EMAS)
- Supply port authorities within the ports of the South East European area with the relevant tools for better environmental management, overcoming current difficulties in the field such as: the lack of specific environmental regulation, fragmentation and the non-homogenous nature of the solutions adopted by single ports.

Taken step by step this can be translated into the following specific goals:

- Definition of a single shared trans-national and sustainable protocol, establish control

Figure 2 – Comparison of the Limit Value for contaminants in dredged sediments among Eu countries.

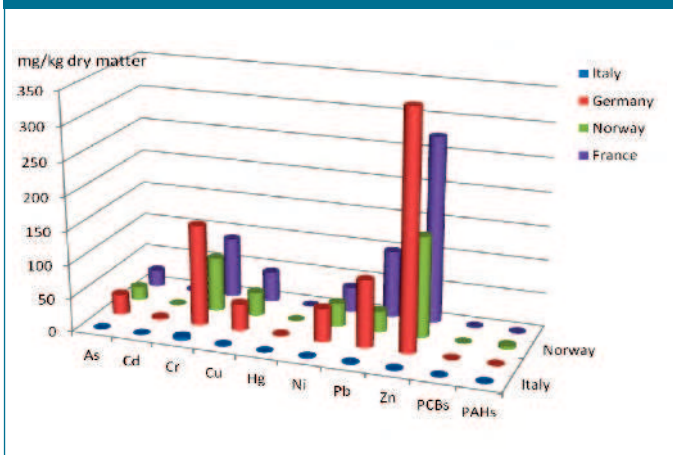


Figure 3 - Horizontal velocity reproduced by a numerical hydrodynamical model called used in the Bari Port Aquatorium at 12:00 am of 24 February 2010, at a depth of 4m.

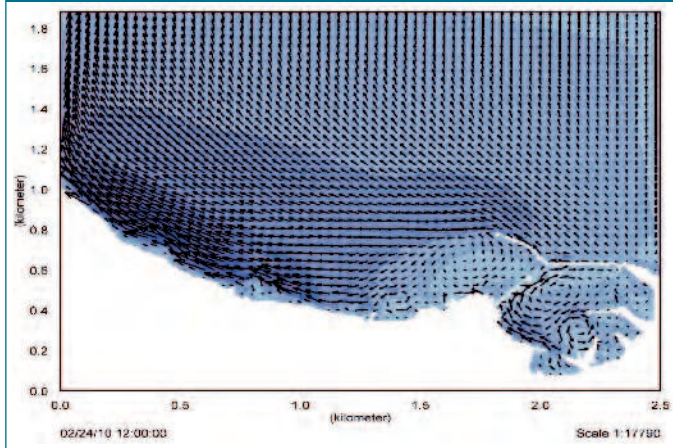


Table 1. SWOT Analysis for ports within ECOPORT 8 Project. Strengths and opportunities

Strengths	Opportunities
<ul style="list-style-type: none"> • <i>Available programmes and technological documents for environmentally sound management of ports according to the national, European and International environmental legislation</i> • <i>Basic administrative structures created at local level for implementation and enforcement of environmental legislation</i> • <i>Change in structure of cargo turnover in ports leading to decrease of the unhealthy impact on environment in port area</i> • <i>Initiatives of port authorities taken to protect the environment</i> - implementation of a project environmental monitoring (Ports of Bari, Constanta) - environmental protection activities to a specialized, well equipped companies - established integrated information system regarding the collection of waste from ships (Port of Bourgas) - no bunkering services within the port; No nearby industry to the port (Durrës) - communication policy and practice for informing the society about initiatives taken to protect the environment (Port Igoumenitsa) - introducing of Environmental Management System (EMS) (Port of Constanta) 	<ul style="list-style-type: none"> • Legislation - developed national environmental legislation and programs harmonized with the EU environmental acquis communautaire • Government policy and better management of environmental protection in state - improved integration of the national sector policies, including transport policy, with the national environmental policy - implementation of a port-oriented environmental policy - established and functioning basic administrative structures at central and local level for implementation and enforcement of environmental legislation - legally established system for monitoring and control of the activities for environmental protection - increased demands on protection of the environment in the area around the ports in order to develop priority sectors for the country. • Financial support - availability of EU financial instruments for support of EU port operations management and environmental protection - participation in international projects - interest from financial institutions to credit the branch

LEVERS FOR DEVELOPMENT

As the ECOPORT 8 project, which started in 2009 is getting close to its end, there is a significant amount of results which have helped better understand the “bigger picture” regarding the environmental aspects in the ports from Corridor 8. Probably the most synthetic results are grouped in the SWOT analysis covering the entire area. Table 1 contains the levers for development, overall strengths and opportunities of the region, as well as best practice examples. Table 2 groups in a synthetic manner the overall weaknesses and threats, putting them as targets for future action aimed to improve the environmental quality in ports.

Many other legal, technical and scientific data required for the establishment of environmental policies in the ports have been highlighted by the project ECOPORT8 (www.ecoport8.eu). One of the brakes which prevents the definition of a common platform is the lack of a well-defined framework. For example, in Italy the dredged sediments are often classified as special waste (with considerable disposal costs), while the proposed limits in other European countries (eg Concerning PCBs, PAHs and heavy metals) more easily allow their reuse, transforming in this way the dredged sediment into a source.

Another important aspect concerns the need for monitoring key environmental matrices. With ECOPORT8, 2 pilot plants were built in the ports of Bar and Burgas, where further measurement campaigns on various parameters, such as the hydrodynamics of the port aquatorium (measures speed and direction of movement of the currents and wind) were carried out. The surveys carried out together with the application of numerical models, can identify the stagnation points and define the movement inside the port with different wind conditions (Figure 3). The objective of the survey is to assess the actions necessary to improve water quality and to deal with emergencies arising from accidental spills.

The scientific work produced by the partnership is finalized to set up an Environmental Improvement Programme for the eco-performance within the port areas, that could foresee the use of instruments, as environmental management system (EMS), environmental risk analysis (ERA), environmental land use plans (LUP) and other eco-instruments for the environmental management of ports of the SEE area.

For more information on ECOPORT8 PROJECT:
www.ecoport8.eu

Table 2. SWOT Analysis for ports within ECOPORT 8 Project. Weaknesses and threats

Weaknesses	Threats
<ul style="list-style-type: none"> • <i>The absence of well functioning system for environment management (EMS) in line with the international standards</i> • <i>Lack of modern system for environment pollution risk assessment</i> • <i>Weak integral policy for sustainable development of the ports based on the Integrated Coastal Zone Management (ICZM) approach</i> • <i>Lack of sufficient administrative capacity to implement the requirements of the regulations</i> • <i>Ineffective utilisation of raw materials, supplies and energy</i> • <i>Limited internal financial resources to ensure environmentally sound operation of the port</i> • <i>Lack of self-monitoring system for particular components of the environment affected by port activities</i> 	<ul style="list-style-type: none"> • Legislative shortcomings - too complicated and fragmented environmental legislation - insufficiently effective economic incentives and sanctions for environment protection - lack of a specific environmental policy regarding the port area (beyond the policy introduced by the Greek legislation); - high cost of environmental law enforcement and poor enforcement of the regulations • Lack of coordination and integrated management of the coastal zones - mismanagement and insufficient communication and coordination between institution and other stakeholders responsible for implementing the legislation in the port • Deterioration of the conditions - deterioration of the condition in some ecosystems inc. their biodiversity, which will incur more stringent requirements or issuing permits and EIA for the port; - expected increase in ship call and cargo turnover in the ports, which is a potential danger to environmental protection; - resisting bad practices

OBSTACLES TO OVERCOME

- and monitoring standards within the ports (according to UNI EN ISO 14000 standards);
- Set up of a permanent PAN-EU network to develop, strengthen and transfer coordinated initiatives of cooperation for eco-management of PAN-EU corridor ports;
- Identification of common innovative tools (preventative approach), to define environmental and social risk conditions, and reducing risk perception;

- Development of cooperation among local authorities, citizens and enterprises of SEE area, stimulating growth, employment and environmental policy;
- Training of new professionals on the design and environmental management of port areas;
- Creation of a virtual environmental certification for PAN-EU corridors and port networks in all their complexity.