

ENVIRONMENTAL MANAGEMENT TOOLS FOR PORTS

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Ports are very complex systems from the point of view of environment. In fact, the very existence of the port, as well as any expansion of its installations, implies a certain loss of habitat. Furthermore, the normal activities carried out in ports can be associated, one way or another, with environmental impacts: waste water discharges, air pollution, noise, soil contamination, dredging, waste production, accidental releases into water or air, etc. (Trozzi and Vaccaro, 2000).

The importance of the different environmental issues clearly depends on the characteristics of each port, although some issues are frequently more important than others. Table 1 summarizes the ranking of the major environmental issues in sea ports, according to the results obtained from the ESPO Environmental Questionnaire 1996, 2004 and 2009.

Table 1. Main Environmental Problems for European Ports. Source: ESPO, 2009.

| | 1996 | 2004 | 2009 |
|----|----------------------------|-------------------------|-----------------------------------|
| 1 | Port Development (water) | Garbage / Port waste | Noise |
| 2 | Water quality | Dredging: operations | Air quality |
| 3 | Dredging disposal | Dredging disposal | Garbage / Port waste |
| 4 | Dredging: operations | Dust | Dredging: operations |
| 5 | Dust | Noise | Dredging: disposal |
| 6 | Port Development (land) | Air quality | Relationship with local community |
| 7 | Contaminated land | Hazardous cargo | Energy consumption |
| 8 | Habitat loss / degradation | Bunkering | Dust |
| 9 | Traffic volume | Port Development (land) | Port Development (water) |
| 10 | Industrial effluent | Ship discharge (bilge) | Port Development (land) |

One of the main challenges targeted by the European Sea Ports Organisation (ESPO) is the sustainable development of sea ports. Environmental issues are of strategic significance for European ports and increasing efforts are being made to reduce the impact of their activities and operations. In order to attain such a goal, the first step is to implement effective management of the environmental issues.

Ports can derive important benefits from good environmental management. Improved community relations, and reduction of risks and costs are immediate examples. For these reasons, Port authorities are increasingly applying tools and methodologies not only to achieve

environmental objectives but also to demonstrate their competence and licence to operate in a sustainable fashion.

Standards are available to indicate level of achievement and environmental improvement using Environmental Management Systems (EMS) such as the ISO 14001 (ISO, 2004) and the EMAS (European Parliament and the Council of the European Union, 2009). Adoption and implementation of such EMS may involve specialist expertise and cost. Moreover, these Standards are not port specific. In response, the port sector, through the ECOPORTS project (2002-2005), supported and collaborated in the development of user-friendly tools based on the generic principles of established EMS. Coordinated and established by the ECOPORTS Foundation, specific tools were introduced to offer a phased development of practicable EMS focused on the unique requirements of the port sector.

These tools were subsequently up-dated through collaboration between ESPO, ECO-SLC and academic partners. The positive relationships between the participant academic institutions including Cardiff University and Universitat Politècnica de Catalunya, and port professionals from the sector created an effective R&D pathway. In particular, two tools, the Self Diagnosis Method (SDM) and the Port Environmental Review System (PERS) Certificate, have been widely used by European Ports and are considered to be particularly effective and useful tools in the pathway to an ISO or EMAS standard. Nowadays, the ECOPORTS tools are managed by ESPO (for ports in Europe and its surrounding countries) and by ECOSLC Foundation (for ports outside Europe and for training courses all over).

In a further demonstration of the sector's commitment to transparency and sustainability, ESPO is currently completing its coordination of the R&D Project PPRISM (Port Performance Indicators – Selection and Management, www.PPrism.espo.be). The project identifies a set of sustainable, relevant and feasible port performance indicators to be implemented at EU level in order to measure and assess the impact of the European Port System on society, environment and economy. A Port Index based on a port's environmental credentials that reflects EMS is currently being developed for the Baltic Sea (www.clean-baltic-sea-shipping.eu).

ECO-SLC is also involved in environmental related projects. It is a partner in the European Interreg IVc project SuPorts (www.suports.net). This project addresses the specific bottle necks that small ports face when introducing environmental management systems. ECOSLC assists them in the introduction of ECOPORTS tools and also develops new tools to assist in the introduction of sustainability in goods transport in the port area and the logistic chain.

References

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