Green Inland Ports

Good Practices

Environmental management systems

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1.1 Description

Worldwide there are many different Environmental Management Systems (EMS) in place which can be based on different standards, like EMAS, BS 8555:2016 and ISO 14001 of which the latter is probably the best known. We take ISO as example to explain what an EMS entails. ISO (International Organization for Standardization) is an organization that brings experts together from all over the world to agree on the best way to do things. This can be anything from making a product to managing a process (ISO, n.d.). ISO 14001 sets out criteria for an environmental management system (EMS). It outlines a framework that companies can follow to establish an effective environmental management system, which can be used to develop and implement appropriate and effective environmental policies. An ISO 14001 certification will remain valid for 3 years. ISO 14001 offers a structured approach for businesses to address pressing concerns, such as climate change, biodiversity loss, and resource depletion. ISO 140001 assist companies with:

- Demonstrating compliance with current and future statutory and regulatory requirements.
- Increasing leadership involvement and engagement of employees.
- Improve company reputation and the confidence of stakeholders through strategic communication.
- Achieve strategic business aims by incorporating environmental issues into business management.
- Provide a competitive and financial advantage through improved efficiencies and reduced costs.
- Encourage better environmental performance of suppliers by integrating them into the organization's business system (ISO, 2015).

This good practice can be applied by all companies and authorities active in port areas, such as port authorities, terminals, and (shipping) companies.

For example, Niedersachsen Ports applies the Environmental Management Standard called Port Environmental Review System (PERS) which is based on ISO 14001. This Environmental Management System is developed by EcoPorts, the main environmental initiative of the European Sea Port Organisation (ESPO) that raises awareness on environmental protection through cooperation and sharing of knowledge between ports and improves environmental management (EcoPorts, n.d.). Every two years, EcoPorts re-examines the environmental management systems. The environmental management system that has been set up by EcoPorts and is being applied by Niedersachsen Ports has a strong focused on internal business operations (Wuczkowski, M., 2023). Depending on the complexity of the tasks, an external auditing party is called in to carry out the audit (Niedersachsen Ports, n.d.).

Contargo, an inland container terminal and barge operator operating primarily in Germany, operates an inland terminal in Emmerich (Germany) which is ISO 14001 certified (Contargo,

n.d.-b). According to Contargo (Kossack, M., 2024), ISO 14001 has the following advantages for a port operators and its customers:

- Port operations need to comply with numerous environmental regulations and laws. Compliance with ISO 14001 standard helps the company to meet these requirements and avoid possible legal problems. It gives customers confidence that the port is compliant with environmental regulations.
- ISO 14001 certification gives a signal to customers, suppliers and other stakeholders that the port operator is committed to environmental protection. A positive environmental image can increase customer trust and open up new business opportunities.
- Increased efficiency: Implementing an environmental management system in accordance with ISO 14001 helps the port authority to optimize its operations and use resources more efficiently.
- Risk management: Identification and assessment of environmental risks is an important part of ISO 14001. By systematically recording and assessing environmental risks and accidents, the port operator can identify potential risks at an early stage and take appropriate measures to minimize or avoid them.
- Reliability: ISO 14001 certified port operations demonstrate a high level of professionalism and commitment to environmental protection. Customers can trust that their business partners act responsibly and strive for minimal impact on the environment.

1.2   Specific aim of the measure

The aim of this good practice is to become more sustainable/environmentally orientated as organization. The subsequent goal is for organizations to improve their environmental performance through efficient use of resources and reduction of waste, gaining a competitive advantage and trust of stakeholders (ISO, 2015).

1.3   Ports with an Environmental Management System (ISO 14001)

- Emmerich
- Euroports
- Gyor-Gonyu
- HAROPA port (Paris)
- Niedersachsen Ports
- Nort Sea Port
- Port of Rotterdam
- Compagnie Nationale du Rhône (Port of Lyon)
- DUK Dörpen
- Port of Aalborg
- Port of Seville
- Van Berkel Logistics

1.4   Stakeholders that are relevant in an enivonrmental management system

- The port authority or company that is willing to implement an environmental management system: In order to receive the relevant certification, pressing concerns such as biodiversity, climate, water management etc. need to be in order.
- ISO or other company that has developed an environmental management/review system: They are responsible for the issue of the certification, and thus need to audit whether or not the relevant company meets all standards and requirements.
- (External) auditing companies: They are responsible for the issuing of recurring audits when an certification expires.

1.5   Voluntary or mandatory

Introducing an environmental management system is not obliged, but ISO 14001 starts to become an important requirement for businesses. We live in a globalized world where companies are beginning to value environmental conservation because it is part of the moral behaviour of organizations and society as a whole. ISO 14001 can lead to an improvement of a company's (more sustainable) image and may lead to new business opportunities (IES, 2023). As certain certifications become a requirement when signing contracts, it may become a license to operate in the near future.

1.6   Realised/potential impact

Within the Niedersachsen Ports, the strategic corporate development/sustainability staff department is responsible for the implemented environmental management system (which is based on ISO 14001). The strategy and planned measures are coordinated and monitored annually together with all branch managers and the management. Meetings on topic-related aspects are held with responsible employees several times a year based on the arising needs. These meetings are organised by the Strategic Business Development/Sustainability Management staff department to review implemented activities and to initiate new ones, as well as to continuously review the legal conformity of the measures (Niedersachsen Ports, 2019).

1.7   Possible obstacles when implementing good practice

- Certification involves high costs and time, as documentation must be prepared, employees must be trained, as well as internal and external auditors (Waxin, M. F. et al., 2017, Camilleri, M. A., 2022). Especially for smaller ports, the cost component can play a major role.
- Qualified staff is important for the implementation, but also for maintaining the certification. (Waxin, M. F. et al., 2017). Employees should be receptive towards a more

environmental approach. Resistance by employees to change can be an important obstacle (Camilleri, M. A., 2022).

- Major inconsistencies have been demonstrated between external auditors auditing the same system. It is not unlikely that there will be inconsistencies between auditors, as it remains a subjective human action, but large inconsistencies may raise questions regarding the competency of some auditors. Better communication between auditors and auditees is needed to address this, which could be realized by guaranteeing that auditors are geographically closer to their clients. Consistency would also be improved if auditors would be periodically audited themselves (Searcy, C. et al., 2012).
- Brouwer, M. A. C. & Van Koppen, C., (2006) have conducted interviews with ISO 14001 certified companies in the chemical, food and environmental services sector to explore the dynamics of continual improvement within ISO 14001. Doubs have been raised whether ISO 14001 can give an impetus to preventive waste- and emission reduction, and whether it fosters a culture of innovative environmental care once the certification has been awarded. There is a lack of detailed guidance in the ISO 14001 standard on implementation, leading to vague procedures that are difficult to reproduce. Strategic improvement can vary widely under ISO 14001. Interviews indicate that the following aspects in ISO 14001 require some clarification: specifying minimal conditions to be met (it is unclear what the bottom line of continual improvement is), differentiation between tactical and strategic improvement (short-term versus long-term improvement) and elaborating on the system boundaries (not only focussing on internal processes, but also on issues of life cycle management, product stewardship, environment-oriented product development and supplier requirements) (Pojasek, R. B., 2008, Brouwer, M. A. C. & Van Koppen, C., 2006).
- Within the second survey that has been conducted for the GRIP project, respondents that have implemented this good practice stated that it is relatively difficult to implement an ISO 14001 system, as it scores an average of 7.2 (1 means very easy, 10 means very difficult). The ports that have not implemented an ISO 14001 system have very mixed feelings on the applicability in their own port (Ecorys et al., 2024).

1.8   Key learnings

- Organizations using ISO 14001 have found success across a range of areas, including reduced energy and water consumption, a more systematic approach to legal compliance and an improved overall environmental performance (ISO, 2015).
- ISO 14001 can be applied by inland ports, terminals and other companies that are located within the port area. Specific for ports, EcoPorts has created a port environmental review system which is partly based on ISO 14001, primarily applicable to port authorities.
- As sustainability is increasingly becoming a more important requirement for businesses, environmental management systems could become a license to operate in the future.

1.9   Sources

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