CIRCULAR MONITORING FOR PORTS

MarCom

TERMS OF REFERENCE

1. Historical Background Definition of the Problem

Ports are today expected to play a significant role in the transition towards a circular economy. They should not only facilitate regional and global transport flows within circular production chains, but also host circular activities in their port areas. With this aim, port managing bodies (PMBs) are heavily investing in ports to become more sustainable. This is not only being done out of intrinsic motivation but also because of its importance for the ports' social license to operate and for sustaining their competitiveness. One of these types of investments, besides those in renewable energy, is that in the circular economy (CE). These investments go beyond (simply) attracting CE activities, but also in spatial planning for circular projects, and exploring and co-creating circular business opportunities.

After a decade of increased attention and research contributions on the topic, there is a strong evidence base that significant investments in the circular economy (CE) are being made in port areas around the globe. To ensure that these investments lead to sustainable value creation for the port clusters, it is necessary to monitor the input, output, outcomes and, if possible, also the impacts through appropriate indicators within a context of ESG standard reporting. Research on circular economy indicators for ports is still in its infancy, characterized by an absence of in-depth research on the development of port-related circular economy indicators.

Today, a first set of relevant indicators has been developed for and in cooperation with Belgian seaports[1], but the wider geographical relevance and feasibility needs more work and involvement of worldwide experts. Besides geography, it is also very plausible that the typology of the port (e.g. diversified hub port, coastal port, logistic port, feeder port and inland port), the import/export balance and historical port flows, and the circular ambition of the port stakeholders have an important influence on (some) circular indicators in their dashboard. On the other hand, PMBs and their largest companies are also expected to become compliant with the increasing supranational sustainable reporting requirements, such as set out in the CSRD-Directive of the European Commission and ESG-standards. In addition, a common measurement basis can serve internal purposes of the PMBs, namely to assess their competitive progress within the circular transition in line with their strategic ambitions, and also as means of transparent communication to motivate and engage external stakeholders (tenants, local communities, supply chain actors, governmental agencies) towards achieving stated objectives.

[1] Faut, L., Soyeur, F., Haezendonck, E., Dooms, M., & de Langen, P. W. (2023). Ensuring circular strategy implementation: The development of circular economy indicators for ports. *Maritime Transport Research*, *4*, 100087.

2. Objectives

The mission of the proposed Working Group is to provide a set of indicators for controlling and stimulating the circular transition of ports. This Working Group aims to analyse the drivers for (standardized) circular monitoring, and common definition, relevance, and data-feasibility of circular indicators for ports. The higher ambition of the Work group lies in a wider acceptance and adoption of a set of circular indicators, which serve as a starting basis for circular transition dashboard for ports.

The objectives of the working group can be split in 3 parts:

1) First part:
   - What do ports in theory and practice understand as circularity, circular transition, and circular activities?
   - What are the drivers and bottlenecks for circularity in ports across the continents?
   - Identifying (context) factors, functions and ambition levels of ports that may impact the circular indicators.

2) Second Part:
   - Analysis of already existing indicators for circularity in ports and their salience.
   - Evaluation of most relevant definitions for each indicator.
   - If applicable, and based on the first part, defining, and selecting subsets of indicators according to contextual factors.

3) Third part:

   - Identifying data feasibility issues per indicator and possible solutions; and
   - Developing guidance for ports and circular teams at port managing bodies by a step-by-step approach for a baseline measurement.

3. Earlier Reports to be reviewed

Besides the above-mentioned scientific publication of 2023, and a updated literature review based on published work after that date, the circular port monitor report will integrate current knowledge regarding sustainability measurements, footprints, guides and/or frameworks, and integrate knowledge and practical information thereof.

The WG will review the following PIANC WG reports:

- EnviCom 188: Carbon Management for Port and Navigation Infrastructure (2019)
- MarCom WG 162: Recommendations for Increased Durability and Service Life of New Marine Concrete Infrastructure (2016)
- EnviCom WG 150: Sustainable Ports - A Guide for Port Authorities (2014)
- MarCom WG 103: Life Cycle Management of Port Structures, Recommended Practice for Implementation (2008)
- EnviCom WG 4: Environmental Management Framework for Ports and Related Industries (1999-2001)

Various other reports looking into dredged material and its reuse and disposal, could also be sources of information:

- MarCom WG 144: Classification of Soils and Rocks for the Maritime Dredging Process (2014)
- EnviCom WG 109: Long-Term Management of Confined Disposal Facilities for Dredged Material (2009)
- EnviCom WG 104: Dredged Material as a Resource (2009)
- EnviCom WG 5: Environmental Guidelines for Aquatic, Nearshore and Upland Confined Disposal Facilities for Contaminated Dredged Material (2002)
- MarCom WG 19: Beneficial Uses of Dredged Material - A Practical Guide (1992)

The Working Group will furthermore agree on the range of other national and international reports and publications to be reviewed with a clear link to the topic of CE monitoring for ports.

4. Scope of Work

The scope of the Working Group will extend to port business and port area related circular activity. The final report should include case studies of minimum one port of each identified port type relevant for the subject. It should also identify definition and feasibility bottlenecks but also provide (potential) solutions in the context of CE indicators and their measurement.

It is suggested that the Working Group addresses the following topics:

- Circular potential of different port types,
- Definitions of circularity, CE ambitions, CE activities, CE projects and the need for harmonisation,
- The strategic link between mission, objectives, and indicators in a CE transition strategy,
- The responsibilities and investments of PMBs, port companies and other stakeholders in monitoring CE,
- Data collection risks for the CE monitoring, potentially per indicator,
- Impact on HR, IT and other costs related to monitoring,
- Integration in existing sustainability reporting and compliance proactivity,
- Potential trade-offs between CE progress and emissions or energy efficiency,
- The effect of CE on port business models, and
- The spatial effect of CE.

5. Intended Product and Target Audience

The outcomes will be presented in a well-structured and practical guidance document targeted at the Port Managing Bodies (Port authorities) and other (co-)responsible maritime agencies and stakeholders for circular transition in ports. It will detail best managerial practices and share points of attention, suitable for executives and decision makers. It will not be a detailed technical handbook.

6. Partnerships and Working Group Membership

Partnership shall be set up with relevant sister Associations such as IAPH. Other international or supranational associations, such as the European Seaport Organisation (ESPO), ASEAN Port Association, Port Management Association of Eastern & Southern Africa (PMAESA), American Association of Port Authorities (AAPA) etc. that may have a similar interest and are viable to contribute should be invited for participation.

The working group should be led by MARCOM and should include members of ENVICOM. Designation of WG members should follow the standard procedure defined by PIANC Rules and regulations, plus some more members (experts) designated according to their expertise and the particular scope of the WG. Members should include strategic and environmental experts and executives of port authorities and port companies, circular (academic) experts, circular entrepreneurs and investors, data experts, (environmental) regulators and knowledge agencies, legal experts and organisations for standardization. The development of the guidance should be done by a multi-stakeholder approach with many of them represented next to the experts from the PIANC community.

7. Relevance

7.1. Relevance to Countries in Transition, etc.

Countries in transition/development/Small Island Developing States (SIDS) and similar are particularly vulnerable to climate change and environmental harms caused by international production, trade and maritime transport. Examples to support this include ship dumping and dismantling on Indian beaches, and the burning of European polyester clothing in Africa. CE transition and regulation in developed countries will on the one hand reduce the volumes of waste that are now transported to developing countries, creating huge environmental (and social) harm there. On the other hand, by collaborating on a CE transition monitor, sharing best practices and working in the direction of a standard could also support ports in these areas the create value out of their local recycling activities and speed up their CE transition as well.

7.2. Climate Change and Adaptation

The underlying basic assumption of a strategically supported CE monitor is that it better controls and motivates reaching the intended targets and ambitions which are to support our economy's transition from linear to circular material flows and which as such uses materials more efficiently and reduces waste.
Hence, the WG-report will definitely contribute to the climate change mitigation and adaptation objectives set out in the PIANC Declaration on Climate Change (available at https://www.pianc.org/uploads/files/COP/PIANC-Declaration-on-Climate-Change.pdf), and more in particular to "apply monitoring systems and effective data management to inform and support timely climate change action".

7.3. Working with Nature

Benefits of a CE monitor are at the core of our global environmental concerns including the mining of non-renewables.

8. UN Sustainable Development Goals

This WG-report will contribute to the achievement of the UN Sustainable Development Goals 3 (Good Health and Well-being), 6 (Clean Water and Sanitation), 8 (Decent Work and Economic Growth) and 12 (Responsible Consumption and Production).

9. References

This reference was used in this TOR:
Faut, L., Soyeur, F., Haezendonck, E., Dooms, M., & de Langen, P. W. (2023). Ensuring circular strategy implementation: The development of circular economy indicators for ports. *Maritime Transport Research*, *4*, 100087.

Many other references will be consulted during the WG period, amongst others Cip (2020), GUIDE TO ENVIRONMENTAL CERTIFICATION AND SUSTAINABILITY REPORTING FOR PORTS OF THE AMERICAS, online available on: https://portalcip.org/wp-content/uploads/2021/03/Green-Port-Guide-Translation-CIP01177E05-JD-PBM-MAR.pdf.