

How to measure environmental performance in ports

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Abstract

Oceans, seas, and marine resources are highly relevant for achieving the Sustainable Development Goals. Such relevance has given rise to the blue economy approach, where scholars and policymakers see activities carried out in cargo ports from a different perspective. The blue economy approach stresses the emergence of multiple transnational networks in relation to these topics and the development of green ports plus environmental measurements at seaports in general. In this context, our study aimed to review the various scientifically documented methods for measuring environmental performance in ports, ports companies, or port authorities in the maritime transport and inland waterways framework. The study followed a scientometric meta-analytic methodology to accomplish its goals. The study strictly referred to the Environmental Performance in Ports (EPP) and extracted the corpus to analyze data held in five databases embedded in the Web of Science Core Collection. Then, the selection was processed and refined with the PRISMA guidelines to establish the eligibility criteria for articles with the PICOS (Population, Interventions, Comparators, Outcomes, and Study) tool. A limited study set was identified. This included port environmental performance indicators and studies that were strongly influenced by the European Sea Ports Organization and Green Marine networks. These were compared based on the ecological Sustainable Development Goals (SDGs), scale structure, and diversity in application. Finally, we assessed two measurement forms documented in the scientific research on the subject at a global level and discussed their pros and cons.

Author keywords

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