Environmental Engineering and Management Journal

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ENVIRONMENTAL EFFECTS OF CONTAINER TERMINAL INFRASTRUCTURE AND MARITIME SERVICES DEVELOPMENT: THE CASE STUDY IN THE SENSITIVE ECOSYSTEM OF THE NORTHERN ADRIATIC

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Abstract

The study addresses an important area of the environmental impact of increasing container traffic in the sensitive ecosystem of the northern Adriatic. Container handling in the three ports analysed - Trieste, Koper and Rijeka - is increasing, and three more terminals are under construction or about to start construction. The study shows a rapid development in terms of infrastructure and throughput, which will have a significant impact on the environment of the Adriatic shipping route. The new operating areas of the terminal and the new berths will enable the berthing of additional and larger container ships, as the quay length will almost double by 2035. Larger ships with a capacity of more than 18,000 TEU will have a greater impact on the marine ecosystem, as they will require deeper water and will sail closer to the seabed. At the same time, larger container ships can also achieve a reduction in the carbon footprint per TEU. The results illustrate the environmental impact for four defined development scenarios of maritime container transport in the Adriatic up to the years 2030 and 2035 and enrich the understanding of the environmental aspects of infrastructure development and modernisation as an important factor in reducing greenhouse gas (GHG) emissions over time.

Key words: container terminals, greenhouse gas, maritime transport, northern Adriatic, pollution

Received: July, 2025; Revised final: September, 2025; Accepted: November, 2025