Speed Optimization for Sustainable Shipping

Among the spectrum of logistics-based measures for sustainable shipping, this chapter focuses on speed optimization. This involves the selection of an appropriate speed by the vessel, so as to optimize a certain objective. As ship speed is not fixed, depressed shipping markets and/or high fuel prices induce slow steaming which is being practised in many sectors of the shipping industry. In recent years the environmental dimension of slow steaming has also become important, as ship emissions are directly proportional to fuel burned. Win-win solutions are sought, but they will not necessarily be possible. The chapter presents some basics, discusses the main trade-offs and also examines combined speed and route optimization problems. Some examples are presented so as to highlight the main issues that are at play, and the regulatory dimension of speed reduction via speed limits is also discussed.

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