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The Analysis of the Carbon Reduction Benefits of Using an Alternative Fuel in Container Ship.

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Abstract

This study focus on international shipping vessels, using both exponential smoothing and ship emissions model under different scenario assumptions to predict and quantify the carbon emissions when using the alternative fuels. The results show that alternative fuels have significant potential in reducing carbon emissions, particularly when considering ship lifespan and scrapping rate, which allow for a more comprehensive assessment of emissions reduction over the ship's life-cycle. However, thinking about the intensifying global warming and the continuously rising international carbon reduction standards, this is obviously insufficient to address the climate crisis. Implementing carbon pricing mechanisms and ocean carbon sink can enhance the benefits of emissions reduction and accelerate the shipping industry's transition to low-carbon practices.

Conference Track

Sustainability Issues in Decision Making