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Abstract

The impact of logistics management on CO_2 emissions from freight transport

- A literature review

In order to secure sustainable development, a growing consensus among scientists is that global warming should not exceed 2 degrees Celsius compared to the pre-industrial revolution era. To reach this target, current emissions of greenhouse gases need to be dramatically reduced. Unfortunately, the current trend for freight transport, particularly for road transport, points in the opposite direction. The purpose of this paper is to make a synthesis and an analysis of potential medium-term and long-term logistics solutions for Sweden to meet the EU directive of 75-90% reduction of CO2 emissions from freight transport by 2050. A structured literature review of potential solutions presented in logistics management literature and official reports is conducted. The review focuses on potential solutions based on the interaction between logistics and freight transport. A synthesis of the literature reviewed describes interactions between logistics and freight transport, as well as configurations and concepts in logistics and their impact on CO2 emissions from freight transport. The potential opportunities and challenges in logistics management to reduce CO2 emissions from freight transport are put forward and future research opportunities are singled out. A practical implication of the research is that this paper clarifies the interactions between logistics and freight transport. This clarification is a step towards understanding one potential source of reducing CO2 emissions from freight transport and thus being able to alter the unsustainable development of CO2 emissions from freight transport in Sweden. The synthesis provided in the paper presents a starting point in addressing the 75-90% reduction target for CO2 emissions from freight transport.

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