LCAs and Other Sustainability Metrics Applied to Food Last Mile Distribution: Insights from a Review

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Abstract:

Sustainability is a crucial element for the wellbeing of future generations and is key in any company's strategy. The food sector is a significant contributor to pollution and must focus its attention on the reduction of its environmental impacts. Logistics is one of the main sources of emissions in this sector and last mile delivery accounts for a great portion of impacts. An increasing attention is being placed to improve the environmental friendliness of urban food distribution, with solutions such as cargo bikes or electric vans. To measure the impacts and potentiality of different solutions, Life Cycle Assessment (LCA) studies have been performed, together with the measurement of other metrics. This study conducts a literature review on the subject, to help compare practices and select the most adequate solutions. The methodology involves a systematic search, a bibliometric analysis and a conceptual analysis. Special attention was given to studies dealing with refrigerated vehicles for the food cold chain. Environmental sustainability is the focus, with some insights into economic and social implications. Results are synthesized from two perspectives: technical characteristics and outcomes of the studies. Moreover, gaps in the literature are identified and suggestions for further research are provided.