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BIBLIOMETRIC REVIEW OF ELECTRIFICATION OF ENTERPRISE AND LAST-MILE DELIVERY FLEET

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Abstract – The impact of transport on carbon emissions accounts for 16.2 % of total global emissions, of which road transport accounts for 11.9 %. Road freight accounts for 40 % of road transport emissions and 4.76 % of global CO_2 emissions. This study analyses the existing scientific literature in the field of transport electrification for transport companies in general and for 'last mile delivery' logistics companies specializing in urban delivery within parcel collection networks. The purpose of this study is to determine the state of the art for electric vehicles in fleets and how this topic can be assessed for sustainability. Bibliographic validation is primarily quantitative and is the most efficient method for dealing with the large volumes of information from the Web of Science (WoS) and Scopus databases. VOSviewer software was used to map the relationships between the most frequently used keywords in academic articles. The results show a small number of research papers addressing the electrification of fleet transportation. Only 1 of 523 WoS publications and 1 of 656 fleet transport publications in Scopus covered last-mile delivery for the selected period (1985–2022). It should also be noted that only 39 publications in 1987 in WoS database and 29 papers in 1891 in Scopus on transport electrification have sustainability rating links. The study reveals a lack of research in the subfield of transport electrification. The authors conclude that more research on sustainability criteria for fleet electrification is needed to support a smooth transition to EVs within this specific subfield of transport and to contribute to emission decrease in transport sector.

Keywords – Climate change; e-mobility; sustainability assessment criteria; systematic review; VOSviewer