Market potential and environmental impact of battery-and fuel cell-powered trucks in Germany and the EU (Masterarbeit)

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Abstract

The growing volume of freight traffic on German and European roads is placing an increasing burden on the environment and climate. In order to reduce greenhouse gas emissions and meet the EU's climate protection goals in the transport sector, electrified and locally emission-free drive concepts are being developed. Both, battery and fuel cell powered vehicle concepts are a good alternative to conventional drive trains powered by combustion engines due to the high efficiency of the drive. Within the scope of this work, both types of drive are to be compared with regard to their environmental impact. Furthermore, a market potential analysis for electrically powered trucks will be carried out. The result shows a more favorable forecast for battery-powered trucks. Both in terms of environmental impact and from an economic perspective, taking operating costs into account.