



Bachelor or CEMS Master Thesis

## **Influence of the trend from stationary to online retail on the CO2 footprint in Germany - status quo and forecast**

### **Key tasks and objectives of the thesis**

The fact that the retail industry is undergoing structural change can hardly be denied. Neither is the fact that the Internet is playing a major role in this development. Although the retail sector has been able to continuously increase its sales overall in recent years, there have been significant differences in growth: While brick-and-mortar retail was able to increase its sales by 2.5 percent in nominal terms in 2018, online retail recorded a sales increase of 9.1 percent, according to the Online Monitor 2019 published by the German Retail Association (HDE). According to forecasts, a steady trend is also expected for this year. A development that is due not least to the increasing popularity of e-commerce.

What does this trend mean for the CO2 footprint in Germany? More and more consumers are shopping online - but often have a guilty conscience when doing so. Because in view of the many delivery trucks clogging up city centers and the packaging material, they fear that they are not doing the environment any good. However, this is controversial: if you believe a study by Advisory Experts GmbH, a spin-off of the University of St. Gallen, online shoppers don't need to have a guilty conscience. Their extensive and detailed study of the entire supply chain comes to the conclusion that the climate footprint of online trade is better than that of stationary trade. According to the analysis, the calculated CO2 emissions of stationary retail are on average 2.3 times higher per product sold than in e-commerce. It also requires less physical space, which has to be illuminated and heated.

The work is to carry out a structured research of scientific, as well as practice-oriented sources, in order to

- identify the emission drivers in the "retail" business model for the stationary and online variants
- determine the status quo of retail sales and the shares of stationary and online retail in Germany, and forecast future developments
- develop a calculation model to quantify emissions
- quantify the CO2 footprint of retail in Germany in the model for the status quo and future development
- determine and evaluate the impact of the shift from brick-and-mortar to online retail on the CO2 footprint in Germany.

The paper can be written in English or German.

### **Your profile**

- Study of economics, best with focus on energy economics
- Interest in sustainability topics
- Independent, with a drive to acquire new knowledge

### **Literature**

- Wyman (2021): Is E-Commerce Good for Europe? – Economic and Environmental Impact Study
- Kampffmeyer, Gensch (2019): Nachhaltiger Konsum durch Digitalisierung? - Working Paper
- DCTI (2015): Klimafreundlich einkaufen – Eine vergleichende Betrachtung von Onlinehandel und stationärem Einzelhandel

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