Chair of Circular Economy and Sustainability Assessment
TUM Campus Straubing for Biotechnology and Sustainability
Technical University of Munich

TUM

Master's Thesis:

Life Cycle and End-of-Life Analysis of Heavy Duty Vehicles in Europe

Background

Nowadays, end-of-life vehicles are an essential waste stream in terms of the high-quality materials used. In the context of the Circular Economy, closing (post-consumer) material loops from end-of-life back into production is of high importance. While research into such cycles and the tracing of end-of-life management is already well advanced in the case of passenger cars, very little is known about whereabouts and recycling of commercial vehicles. It can be assumed that in future, similar to passenger cars, commercial vehicles could be subject to stricter regulatory requirements regarding end-of-life practices and the use of secondary material in production. Therefore, an analysis of current life cycles and end-of-life practices for heavy commercial vehicles needs to be done.

Research Challenge

The current subject of research is the tracking of heavy duty end-of-life vehicles. The focus of this research is to identify whereabouts and end-of-life treatment practices for commercial (heavy duty) vehicles in Europe. This includes identifying where they are exported to and where they are ultimately recycled. Therefore, literature and statistics have to be identified and analyzed.

Your Tasks

- Conduct a thorough review of literature and statistics regarding the collection, trade, whereabouts, and end-of-life treatment for heavy duty vehicles.
- Analyze the destinations to which end-of-life commercial vehicles are exported, and identify the locations (countries) where they are processed or recycled.
- Examine trade flows within the European Union between various member states, as well as exports beyond the EU, with a focus on heavy duty vehicles.
- Identify and analyze relevant statistics related to commercial vehicles, including their numbers, usage, whereabouts, and end-of-life treatment trends across different regions.

Requirements

- Strong interest in reviewing scientific literature and analyzing statistical data
- Good knowledge of statistics and data analytics is advantageous
- Being enrolled at SoM, SoLS, TUMCS
- High motivation and ability to work independently
- Capability to work target-oriented and reliable

Please send your application, covering a short motivation letter, your CV and a transcript of records, to dominik.reichert@tum.de until 31.03.2025 the latest.
In case of any further questions, please use the contact information provided below.

Contact

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