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Deutsch-Französisches Institut
für Umweltforschung (DFIU)
Prof. Dr. Wolf Fichtner
Prof. Dr. Frank Schultmann

Bachelor-/Master Thesis
Product Carbon Footprint of a Conventional Vehicle

◼ Organizational aspects

The thesis can be written in **English**, **French**, or **German**.

◼ Motivation and objectives

Electric mobility is expanding in transportation and becoming more important in the context of emission reduction. However, conventional fuels could be substituted with renewable ones in conventional vehicles making them a possible sustainable transport solution. What would be the environmental benefits and drawbacks of such a measure? The aim of this study is to compare the environmental impacts of an electric vehicle to its counterpart that is driven by conventional fuels. In this thesis, you will provide an analysis of the product carbon footprint of a conventional vehicle driven using renewable fuels, such as methanol.

https://prezi.com

http://www.keywordsuggests.com/H1Y36VyTtYhvdvqvYruiz7l2vNt934%7CaiQD3tCkcQHo/

◼ Content of the thesis

At first, you will review the literature for similar works about the environmental assessment of conventional fuel-driven vehicles (life cycle assessments, product carbon footprint, PAS2050 and ISO 14040/44 standards). Afterwards, you will define the methodology and the system boundaries that you will use to assess the carbon footprint (PAS2050, GHG Protocol). The functional unit will be a vehicle that have an electric counterpart (e.g. Mercedes-Benz B-Klasse, Renault Kangoo, VW Golf). The analysis will be done in a cradle-to-cradle system in order to evaluate the results in regard of a circular economy. You will also specify what variables you will focus on during your sensitivity analysis. At third, you will collect emissions data from databases (http://www.carbonfootprint.com, http://www.gabi-software.com, etc.), literature before you calculate the footprint. After calculating the carbon footprint, you will perform a sensitivity analysis. You will also focus on the critical appraisal of the allocations that you attributed to the system during the analysis. These aspects will be the basis for the discussion in your thesis.

https://www.towalk-energieeffizienz.de/energieberatung-f%C3%BCr-unternehmen/carbon-footbrint/

◼ Requirements

Reliability, commitment, and pro-active attitude

◼ Duration

3 to 6 months

◼ Please contact

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http://www.t-online.de/auto/technik/id_69312678/mercedes-b-klasse-electric-drive-stromer-mit-radargestuetzter-rekuperation.html

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