

Bachelor or Master Thesis

Assessment of the production of renewable fuels

Organizational aspects

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

Motivation and objectives

The transportation sector is the second CO₂ emitting sector after the energy sector. The consumption of conventional fuels is the reason of this high emission levels. Conventional fuels could be substituted with so called renewable fuels in conventional vehicles making them a possible sustainable transport solution. What are the state-of-the-art and the new research perspectives related to this emerging field? The aim of this study is to build a thorough knowledge of the assessment methods of renewable fuel production and identify scientific trends and research gaps in regard of methodological aspects.

Content of the thesis

At first, you will review the literature to find studies about the techno-economic environmental, and social assessment or optimization of renewable fuel production. The reviewing task will be dedicated to the evaluation and planning tools of fuel production facilities. In your thesis, you will focus on chemical transformation, such as power-to-liquid, power-to-gas or conventional ways of fuel manufacturing. While reviewing the literature, you will create a database and feed it with the information you gather from the literature. You will establish an appropriate data management system for this purpose. On the one hand, you will focus on methodological aspects used for the assessments or optimizations from the literature. Hereby, you will analyze the modeling approaches used by the authors to evaluate the production systems. You will also depict how the authors relate modeling with economic, environmental, or social assessment or optimization. You will also categorize where the data used for their analysis come from. On the other hand, you will identify the type of renewable fuels the scientific community focus on. In this step, you will inventory the different fuels of interest and assess their occurrences in the literature. Afterwards, you will discuss your findings based on the statistical analysis of the database.

Requirements

Reliability, commitment, and pro-active attitude

Duration

3 to 6 months

Please contact

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<https://prezi.com>



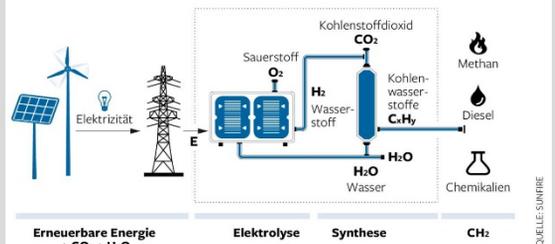
<http://www.keywordsuggests.com/H1Y36VyTtYhvdvqvYruiz712vNt934%7CaiQD3tCkcQH/>



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

SO FUNKTIONIERT POWER-TO-LIQUIDS

Synthese nach dem Fischer-Tropsch-Verfahren



<https://www.welt.de/wirtschaft/energie/article134236409/Aus-CO2-und-Wasser-macht-diese-Anlage-Benzin.html>

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