

Bachelor's / Master's Thesis

## Characterization of tar co-reforming for chemical catalytic raw methanation

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### Contents:

Future carbon neutral mobility requires liquid energy carriers. Chemical catalytic raw methanation of syngas from biomass can play a crucial role in achieving carbon neutral transport. However, tars and other problematic substances are created during thermochemical gasification of biomass, which require costly gas cleaning. The chair of Energy Process Engineering is researching a new process, which allows tar reforming to occur at the same time as methanation, greatly reducing process complexity.

This thesis will investigate the influence of different tars on methanation. The behavior of different catalysts during tar reformation is studied under the addition of known problematic substances.

### Tasks:

- Literature research on the task
- Preparing and installing the necessary facilities to conduct catalyst screening for tar co-reforming
- Planning and conducting experiments to study the reformation of tars and other problematic substances in a reactor in our lab
- Written documentation of the work, clearly shown overview of the results and a presentation

### Prerequisites:

- Interest in theoretic and practical work
- Creativity, personal initiative and an independent way of working

**Start of work:** from July 2023



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