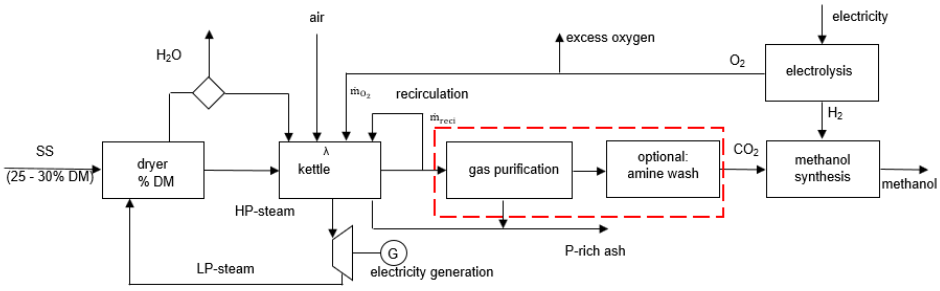
Professur für Regenerative Energiesysteme
Campus Straubing für Biotechnologie und Nachhaltigkeit
Technische Universität München

Master Thesis:

Modeling of an oxyfuel combustion of sewage sludge and subsequent flue gas treatment for the production of purified CO2

Project Description:

In our research project, we investigate the partial and complete oxyfuel mono fluidized bed combustion of sewage sludge together with an oxyfuel flue gas cleaning section. The goal is to separate the carbon dioxide contained in the flue gas and make it usable for downstream P2X processes.



A simulation software (Aspen Plus) is used to model the oxyfuel combustion of sewage sludge and subsequent flue gas treatment on a pilot scale. Two configurations are investigated:

(1) Partial oxyfuel combustion.

(2) Complete oxyfuel combustion

Tasks:	Requirements:
• Literature research • Modeling of both configurations • Parameter study/sensitivity analysis • Optimization of heat integration • Comparison and adaptation of the simulation results to data from the pilot plant in Stuttgart	• Grade average of at least 2.5 **or** relevant experience in Aspen Plus • Motivation, independence and commitment

Contact:

Szymon Herdzik

Professorship of Regenerative Energy Systems, Schulgasse 16, 94315 Straubing, Raum 0.A07

Phone : +49 (0) 9421 187-168

E-Mail: szymon.herdzik@tum.de

23.07.2024