Professur für Chemische und Thermische Verfahrenstechnik
Campus Straubing für Biotechnologie und Nachhaltigkeit
Technische Universität München

Theoretical Bachelor or Master thesis, Scientific Internship

Carbon capture & storage: analysis and characterization of biochar production pathways

Description

At the Laboratory of Chemical Process Engineering, a new project about carbon capture and storage has recently started. The overall aim of the project is to reduce the amount of carbon in the atmosphere by developing a suitable long-term carbon storage in Bavaria. There are various carbon sources, such as CO_2 from air, minerals, organic waste, crops, algae and further sorts of biomass. All of them are carbon-containing resources and, therefore, must be considered as possible feedstock for carbon storage. To achieve a higher carbon content and higher density of these compounds, processes are sought to convert them to long-term carbon storage materials.

Within the scope of this project, biochar as a feasible storage material should be analyzed. Special interest applies to the characterization of different production pathways concerning yield, energy and water consumption and required temperatures for each production pathway. For more details, contact the supervisor.

Prior knowledge

Good knowledge of German or English language is required, as well as interest in carbon capture and storage techniques. Prior knowledge in any of the following topics is appreciated but not required: LCA, process engineering, reaction kinetics, thermodynamics, and physical chemistry. Good support and training will be provided.

Planned start

Upon request

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