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The Institute for New Energy Systems (InES) is one of three institutes for applied research at Technische Hochschule Ingolstadt (THI). It comprises the research activities in the fields of Building Energy Systems, Industrial Energy Systems, Energy Systems Engineering and Technology Transfer & International Projects. Outstanding Bachelor and Master students have best development opportunities at InES.

Heat Consumption in German Biogas Plants Scientific Assistant or Research Internship

Heat consumption and heat demand of operating biogas plants with an increased utilization of agricultural residues

Research project background:

In order to ensure an efficient anaerobic digestion of lignin-rich residues, process and plant-technical conditions and solutions are evaluated in the research project "Agricultural Residue and Waste Utilization" (LaRA). In addition to the technical questions, (socio-)economic aspects are examined to show the effects of a substrate conversion for the plant operator. The residues to be investigated are solid manure, landscape conservation grass and straw. For each substrate category, five operating biogas plants are selected and investigated.

Based on the investigations at the selected biogas plants, concepts are developed to adapt agricultural biogas plants to an increased use of residues.

Aim of the work:

The aim of the research activity is to complete literature research on the heat consumption of operating biogas plants with an increased use of agricultural residues. The research work includes the examination of measurement data of operating biogas plants and the implementation in an optimisation tool in Ansys.

Work Tasks:

1. Literature research on heat consumption of operating biogas plants.
2. Examination of measurement data of biogas plants.
3. Evaluation of the heat consumption of different digester designs and concepts.
4. Analysis of optimization measurements according to the implementation of the measurement data in an optimization tool in Ansys.

Group of interest:

Students of technical study majors (energy systems and renewable energies, industrial engineers, etc.).

Time period:

By arrangement

Supervision:

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