

HiWi position:

„Method development for sample preparation and analysis of biogas parameters for flexible biogas production “

Project description:

In the coming years, the first biogas plants will fall out of the remuneration by the EEG. The model-based control system should enable the plant operators of biogas plants to maximize the revenues on the power exchange in the day-ahead market while at the same time minimizing the use of substrate.

The model-based control system needs a detailed mathematical model of a biogas plant to be able to produce an efficient control method. However,

a number of parameters, such as dry matter content, acetic acid concentration and FOS/TAC cannot be measured on the plant. In order to estimate these parameters, a machine learning approach is used, which requires sample preparation and measurement in the laboratory.

Start date: November 15, 2022.

Tasks:

- Research for lab analysis (acetic acid concentration, dry matter content, FOS/TAC)
- Sample preparation in the laboratory
- Utilize NIR-sensors for measuring sample intensity

Requirements:

- First experience with lab analysis
- Prior understanding of biogas plant processes and structure

We offer you:

- The topic addresses an important area of the energy turnaround by increasing the efficiency and flexibility of biogas plants.
- Cooperation in an innovative research project.
- Motivated and dedicated team

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