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FRAUNHOFER-INSTITUTE FOR WIND ENERGY AND ENERGY SYSTEM TECHNOLOGY (IWES)

VARIABLE BIOGAS PRODUCTION WITH THE "REBI" CONFIGURATION FOR FLEXIBLE POWER GENERATION

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CHALLENGE

High proportions of weather dependent renewable energies will poses on increasing balancing challenge due to the necessity of balancing energy demand with a fluctuating energy supply. In this context energy from biogas offers the advantage of being dispatchable. A prerequisite for flexible power generation from biogas is a guaranteed biogas supply. Conventional concepts are based on excess power capacities and expanded on-site biogas storage. However, new configurations are required, since storage capacities are limited due risks of explosion.

FINDINGS

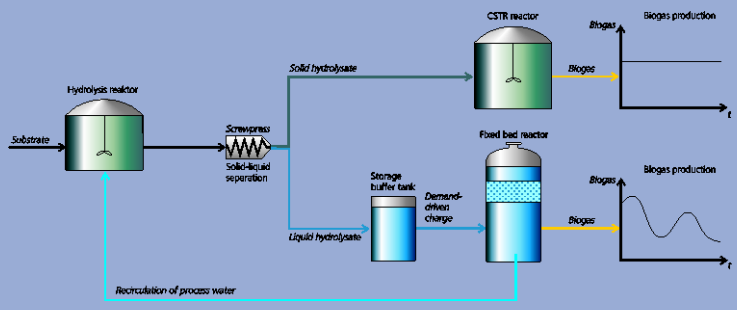
- Substantial volumes of the biogas production can be produced according to fuel demand for flexible power generation
- On-site biogas storage capacity requirements can be reduced
- Thus, variable biogas production with ReBi technology increases the flexibility of biogas power generation

SUBSUMPTION

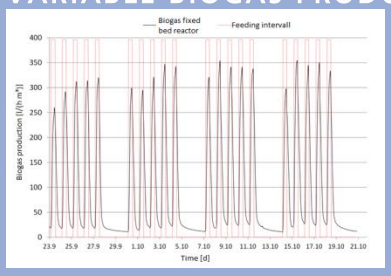
The ReBi configuration is designed and tested by scientists from Fraunhofer IWES and HAWK. This configuration, with its variable biogas production, will be a key element for integrating high shares of fluctuating RE into energy supply systems.

The ReBi project (22400611) was financed by the Agency for Renewable Resources (FNR e.V.) within the framework of the energy and climate fund.

THE REBI BIOGAS PLANT CONFIGURATION



VARIABLE BIOGAS PRODUCTION



REDUCTION OF BIOGAS STORAGE CAPACITIES