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## Generating needs-led electricity with biogas plants

### Optimal use of storage capacity

The share of renewable energy sources in electricity production is to be increased. However, the supply of wind and solar energy varies. Conversion of biogas into electricity offers an opportunity to compensate for such fluctuations through an adapted production. The prerequisite for this is that there is a sufficient and free storage capacity available in the systems at all times. The new BINE Projektinfo “Adjusting operation of biogas plants to power requirements” (07/2018) presents improved systems for filling level measurements and forecasts, and summarises recommendations for plant operation.

Weather conditions heavily influence the storage capacity of biogas plants. If the storage tank is too full, the excess methane must be flared off. This is why it is important to plan with a sufficient buffer. Researchers at Deutsches Biomasseforschungszentrum (DBFZ) optimised measurement methods and developed a forecasting tool to be able to predict the filling level as accurately as possible under different weather conditions. At the same time, they developed a model for forward-looking gas management. The aim is to render the largest possible storage volume usable as a buffer between gas production and utilisation, and to avoid losses due to flaring and leakage.

The project partner Awite Bioenergie developed a fuzzy logic expert system that also covers gas and CHP management. Based on data from Deutscher Wetterdienst (DWD), for example, substrate feed can be adapted. The system is to be expanded to form a control system for the entire plant.

The BINE-Projektinfo brochure, which can be obtained free of charge from the BINE Information Service at FIZ Karlsruhe, is available online at [www.bine.info](http://www.bine.info) or by calling +49 (0)228 92379-0. The brochure cover and additional image material can also be downloaded from this web portal in the press section.

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