

**Titel:** CO<sub>2</sub> from biogas plants: a future feedstock for biotechnology?

**Abstract:**

With almost 9000 plants, Germany is a leader in the production of biogas within the European Union. Nowadays, a great majority of the biogas is converted into renewable electricity and heat in combined heat and power plants (CHPs), thereby emitting significant amounts of CO<sub>2</sub>-containing off-gases. Furthermore, facilities for the upgrading of biogas into biomethane are significantly on the rise, providing large amounts of biogenic CO<sub>2</sub> at high purity (~ 98%). Consequently, biogas plants represent highly interesting sources of renewable carbon for CCU pathways.

In scope of the German research project "BiogasanlagePLUS", the potential of biogas plants as sources of renewable CO<sub>2</sub> were analyzed and matched with biotechnological pathways for the creation of novel value chains. Opportunities and current challenges of biogas plants as CO<sub>2</sub> source for biotechnological conversion routes such as (syn-)gas fermentation, methanol fermentation and algae as well as recommendations for future research and development efforts at the interface of biogas and biotech will be presented.