

Highlights of Bioenergy Research 2020

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Abstract

Determination of methane emissions from biogas plants and reduction strategies

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Methane is or was (in case of natural gas) produced during anaerobic digestion of organic material. Anaerobic digestion occurs naturally in marsh land but also in landfills, improperly operated compost facilities and of course in biogas plants. Biomethane is produced during anaerobic digestion and it is one of the most promising and important energy carriers to cover basic energy demands and substitute fossil based fuels. In Austria 270 biogas plants were operated in 2019, providing 80 MW. Each year, 565 GWh green electricity are provided to the grid and 350 GWh of heat are used. Additionally, 170 GWh biomethane are injected into the natural gas grid and 1.5 million tons of fertiliser are produced.¹

Besides that, methane is an effective greenhouse gas, whose emissions need to be avoided. For this purpose the project “EvEmBi – Evaluation and reduction of methane emission from different biogas plant concepts” is carried out. The aim is to support biogas plant operators to reduce methane emission, where necessary by providing accurate measuring data of methane emissions. This project is based on findings from the previous project “MetHarmo – European harmonisation of methods to quantify methane emissions from biogas plants” and evaluates existing technologies at biogas plants in Austria, Denmark, Germany, Sweden and Switzerland with regard to their methane emissions. In EvEmBi on- and off-site measurement methods are used to quantify methane emissions from single emission sources and from the overall plant. Furthermore, suitable approaches and recommendations for emission measurements at biogas plants provided for plant operators.

More information about the event, photos and presentation slides are available for download: <https://nachhaltigwirtschaften.at/en/iea/events/2020/20200124-highlights-bioenergy-research.php>

¹ Basisdaten 2019. Bioenergie. Österreichischer Biomasse-Verband. www.biomasseverband.at