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Biogas, present status and future perspectives

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Abstract

Today, 22 centralized (codigestion) biogas plants are in operation in Denmark. Their main purpose is to treat livestock manure and reuse the material as fertilizer. The plants range in size from 550 m^3 to 8500 m^3 and treat in total an amount of 1.2 million tons of manure every year from which they obtain a methane production of approximately 10–20 m^3/t. In order to increase the methane yield compared to the yield achieved from manure, codigestion with industrial wastes is applied to a large extend. Industrial wastes are – rich in lipids, proteins and carbohydrates which are often in easily accessible organic matter resulting in high methane production. The produced biogas is often used locally for electricity and heat production, or can be used through the natural gas grid for more remote utilization. As conclusion can be underlined that biogas is one of the most promising and sustainable energy sources; and the future prospects are anticipating that 1) biogas will be utilised for different broad applications, according to the needs, both for combined heat and power (CPH) production, and in transport sector and 2) infrastructure in the form of natural gas grid in many places, will give the possibility of application in distant from production sites locations