

Project Fact Sheet

Project Title **Agricultural Residual and Waste Material Utilization - Approaches to the Technical Adaptation of Existing Biogas Plants for the Utilization of Fibrous Residual Materials (LaRA)**

Keywords Biogas Production, Agriculture, Organic Waste and Residues, Optimisation, Recommendation for Action, Guideline

Project Details

Project Start	2019	Duration	2.5 Years
Grant Scheme	Nachwachsende Rohstoffe (FNR)	Project ID	22042218
Funding Authority	BMEL		
Project Budget	370,072.02 €		
Project Leader	Prof. Dr.-Ing. Wilfried Zörner		
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Project Partners Leibniz-Institut für Agrartechnik und Bioökonomie e. V. (ATB), Centrale Agrar-Rohstoff Marketing- und Energie-Netzwerk e.V. (C.A.R.M.E.N. e.V.)

Description

The overall objective of the joint project is to develop solutions for creating optimal process and plant engineering conditions for the utilization of fibre-containing residual and waste materials in agricultural biogas plants. The investigations and subsequent conceptual design as well as economic and social aspects are examined in addition to the consideration of process and plant engineering issues.

A changeover to the use of residual and waste materials and the associated changes in substrate properties, such as rheology, substrate digestion, temperature distribution in the tanks and the wear behaviour of the components can have a significant impact on the plant peripherals (feeding, agitator, pumping system, etc.). The definition of a valid catalogue of measures for the successful adaptation of the plant technology requires a comprehensive consideration along the process chain of biogas production.

In addition to the adaptive dimensioning of the plant components, alternative approaches, such as the use of innovative pre-treatment technologies for efficient digestion to increase the degradability of substrates that are difficult to digest, are being investigated.

In terms of an overall evaluation of a conversion to residual and waste material utilization of the biogas plants, economic factors such as agricultural land management, reduced substrate costs and increased independence from crop yields are taken into account in the investigations.