

Dry Fermentation of Biomass and RDF (Residue Derived Fuel) to Production Electrical Energy from Biogas - SUFE

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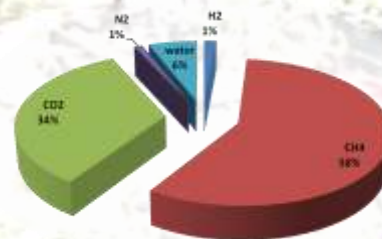


MPO

The application of biodegradable waste as an energy source has its limitation because of their anaerobic decomposition. Wet technology is commonly used, but it has some problems. Dry fermentation as an alternative method has good advantages for application of municipal wastes. It is a great solution of technical problems. Due to the lower water content, operating costs for pumping and mixing will decrease. To use dry fermentation process, biodegradable or agricultural wastes may contain low percentage of water (to the 30%).



Biogas properties:
Heating value among 18 - 25 MJ/m³
Composition:



Description project:

The pilot unit for dry fermentation of the biomass and municipal biodegradable substrate will enable the electricity production by the help of engine. Output will be 30 – 50 kW_e under optimized condition. Final aim is groundwork for build-up operational biogas station with output 500 kW_e. ATEKO Inc. (Hradec Kralove) will produce the arrangement for fermentation combined with heat and power of unit TEDOM. New fermentation process for electricity with municipal wastes will be done with markedly lower operational costs in comparison with wet way. Technology is under development and operational verification.

Typical configuration unit SUFE is usually 3 – 6 fermenters. Of the number of fermenters and their capacity will suit to size combined heat and power unit, eventually gasholder. Proces is managed by PC. Configuration tri fermenter will work up c. 400 - 800 ton raw materials per year, from which will put out 60 thousand. m³ manure gas and 200 thousand. kW_e, at supply to the nets will sale 18 - 30 thousand euro per year. Possibilities application: small village with future obligation sorting bio waste, farmers. Is possibility obtaining grant on realization.

Cogeneration unit
Tedom Micro



Fermenter



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