



ANAEROBIC DIGESTION AFTER THE PARIS CLIMATE AGREEMENTS

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ABSTRACT

Thus far, AD has been focused on renewable energy resp minimizing costs. Yet this is, in the context of the current energy supply and the new developments in the field of alternative energy, not sufficiently ambitious anymore. AD must be more tuned to deal with the ongoing challenges of Climate Change. In that context, AD must be redirected to the production of resources which the consumer accepts and for which he/she expresses a real market demand. The remarkable feature of biomethanation is that it allows to acquire gases which are GRAS (generally regarded as safe) in terms of their composition. Hence, the CO₂ and CH₄ should be upgraded to commodities which are of high value in the market economy and the environmental sustainability policies. Two routes are currently explored. The first route upgrades these molecules to protein rich microbial biomass to be used as feeds/foods. These offer alternatives for conventional crop and animal based proteins. Indeed, the latter constitute a very heavy nitrogen burden on the planet. The second route aims at producing clean microbial biomass based organic fertilizers which can offer an important contribution to the Carbon Capture and Storage initiative of the Paris agreements . Indeed, the latter agreement suggested to increase the organic carbon content of the agricultural soils with 0,4% per year; it stems to reason to explore with great care the possibilities that AD can offer to contribute, -as such or stimulated by a proper macro-economic incentive -, to such goal.