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Anaerobic digestion as a solution for biowaste treatment in Slovakia

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Anaerobic digestion offers effective and green alternative to treat various types of organic waste. The process takes place in batch or continual reactors, in which organic substrates are transformed into biogas and digestate. There are two technological approaches that differs in total solids content in feedstock – wet (<15%), dry (>20%). Produced biogas is composed of ~55% methane, ~40% carbon dioxide, nitrogen, oxygen and hydrogen sulphide. Aim of this paper is to develop and compare mathematical models of continual and batch technology as well as evaluate the potential of building a new anaerobic digestion plant in multiple locations in Slovakia based on a feedstock analysis and usability of all products.

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