Nome entità: Institute of Nuclear Chemistry e Biopolinex Sp.z.o.o.

Nome caso: “Zero-energy” technology

Abstract:

A “Zero-energy” technology concept is a way to take advantage from biogas and electron beam technologies altogether. The technology was developed in the frame of I.FAST WP12. Sewage sludge can be considered as a high quality fertilizer nevertheless presence of various pathogens is an obstacle to dump sewage sludge on a field without previous treatment. Thus an effective method of hygienization must be implemented and use of ionising radiation seems to be a correct solution in this field.

Irradiation of sewage sludge has proven its effectiveness in pathogens removal according to laboratory results. One of the sources of ionising radiation available for the industry is an electron accelerator. The idea is to create a biogas plant working on sewage sludge and paired with a hygienization module containing safe and easy to maintain accelerator. Accelerator would be powered by cogeneration and electron beam treated digestate from biogas plant would be a product – biologically safe fertilizer.

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