

Wastewater sludge-derived biochar and its applications – a literature review

Suggestions on degree project within Future Energy Center

Background

Today, wastewater treatment plants should not be regarded as facilities in which wastewater is cleaned before being discharged into the environment. Instead, wastewater treatment plants should be regarded as waste resource recovery facilities from which resources of different can be sourced. One of these resources is wastewater sludge. The sludge contains valuable nutrients which could be useful in agriculture as fertilizers. Valorisation of the wastewater sludge could also be done; this means that the sludge is transformed into something valuable.

The transformation of wastewater sludge can be performed through pyrolysis, a thermos-based process that results in biochar among other products. Biochar is a solid fraction consisting of carbon, that could be used for various purposes, for instance as soil media. The sludge-derived biochar can also be used for recovery of heavy metals in the wastewater treatment process.

Task

Scattered knowledge about the production of sludge-based biochar and its application is available. Therefore, a compilation of the existing knowledge is wished for. The MSc Degree Project is therefore intended to provide a literature review where scientific articles should be searched for in databases provided by the university. There is a possibility that the literature review can be part of a research project in which valorisation of wastewater sludge will be investigated.

Further information

The topic is in the first hand intended for environmental students. The literature review is suitable for one single student or maximum two students. The project can be adapted to either a MSc or a BSc degree project. It is suitable to be conducted via distance.

Contact

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