ENVIRONMENTAL CONCEPTS EXCHANGE ASSOCIATION

ECEXA Upcycling cellulose from toilet paper

Optimizing wastewater treatment by recovering cellulose

The vision of municipal wastewater treatment has changed considerably in recent years. In addition to stricter approval requirements, the reduction of CO2 emissions and energy consumption has become increasingly important. The idea that energy can be recovered from municipal wastewater on the one hand and that waste products can be recovered and processed into raw materials on the other has accelerated the development of new technologies.

Wastewater that is discharged into the sewage system contains, among other things, suspended solids, most of which consist of cellulose. Cellulose, which has its origins in the use of toilet paper.

This technology, which was developed with Austrian participation, separates the cellulose present in the wastewater using a fine screen. These screens are also used to optimize the dewatering of sludge and to recycle nitrogen and phosphorus.

The principle is aimed at significantly reducing the use of chemicals required for dewatering sewage sludge, lowering energy consumption and sludge disposal costs. In addition, this technology leads to a higher energy yield from biogas in sludge digestion. By using fine screens as pre-treatment, we contribute to the objectives of the waterboards.

Finescreens reduce the burden on the environment and thus contribute to achieving energy targets. The screened material that is separated consists mainly of cellulose, which has enormous potential as a raw material.

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