



Energy-positive wastewater treatment

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Topics: Wastewater

Wastewater treatment plants in the EU could soon be transformed from consumers to producers of energy – European municipal wastewater is estimated to contain around 315 000 terajoules of energy.

If this potential were exploited (e.g. by anaerobic digestion of sewage sludge for biogas generation), the amount of energy produced would be equivalent to the output of 12 large conventional power stations. This is the goal of the recently launched Powerstep project. At six reference plants in Sweden, Denmark, Germany, Austria and Switzerland, scientists are collaborating with industrial partners in full-scale case studies to identify the most appropriate processes. Also participating in the project are process engineers from Eawag. At the Altenrhein WWTP, they are studying in a full-scale plant how nitrogen can be removed from sludge liquid by ammonia stripping. This is essential if organic solids in wastewater are to be used for energy production without adversely affecting biological wastewater treatment. As a by-product of the stripping process, a liquid fertilizer is also to be produced. With funding of over five million euros, the three-year Powerstep project is co-financed by the EU Horizon 2020 Framework Programme.

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