

Electrochemical Recovery: Fertilizer, Fuel, Energy, H₂O

Description of Proposed Solution:

An electrochemical reactor with a magnesium-stainless steel electrode configuration precipitates struvite fertilizer from WWTP centrate produced during biosolids processing. As a by-product, the electrochemical reactor also produces a fuel, hydrogen. The technology enables overall WWTP system cost and energy efficiencies, through reductions in chemical salt usage, biosolids waste production and processing, and aeration demand. Struvite and H₂ can be sold as market commodities. An additional 15 MGD of clean water is made available with reduced salinity and reduced N and P nutrient loads.

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