

Innovative processes for lipid recovery from sewage sludge and their conversion into biofuels and biolubricants: a SWOT analysis

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In Europe, wastewater treatments produce around 10 million tonnes per year of urban sludge. This value is going to increase up to 13 million tonnes according to the Wastewater Directive (91/271/EEC) in the next ten years. The management of this waste in an economically, environmentally, and socially acceptable way represents one of the major issues to be faced by the modern society. For this reason, alternative sludge management methods based on resource recovery combined with minimization of residue have been largely investigated in last decades. One promising way to address this issue is to preserve the chemical complexity of components in raw sewage sludge, through processes that isolate useful compounds having a market value, in agreements with “Circular Economy” principles. Innovative processes for lipid recovery from sewage sludge and their conversion into biofuels and biolubricants will be presented and discussed, evaluating the relevant SWOT analysis.