

Evaluation and development of anaerobic membrane bioreactor (AnMBR) technology to promote unrestricted wastewater reuse and mitigate compromised surface water quality in the Mediterranean region

Type : Projet européen PRIMA

Période d'activité : 2021- 2024

Partenaires :

Main partners:

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Informations/Site web : under construction

Résumé : The pursuit of wide-scale unrestricted wastewater effluent reuse still faces significant challenges in its successful implementation at the local level. Energy and resource efficiency of wastewater treatment are universal requirements due to the potential for greenhouse gas emissions and costs associated with energy and chemical input. Further, the presence of persistent and emerging contaminants in wastewater sources is a hindrance to the necessary role that wastewater reclamation must play in the Mediterranean region. Based on the outstanding issues facing the successful widespread implementation of wastewater reuse and preservation of surface water quality, the development, advancement, and application of the emerging technology known as the anaerobic membrane bioreactor (AnMBR) for direct and unrestricted wastewater reuse is proposed. To achieve this, the objectives of the proposed work is to address and overcome the remaining challenges facing AnMBR technology which have thus far prevented its implementation at the full-scale for wastewater reuse. In addition to achieving availability of safe wastewater reuse for unrestricted irrigation, this research will also serve to improve surface water quality by mitigating poorly treated waste sources and reducing contaminant loading. This will be accomplished by performing the experiments necessary for AnMBR process optimization, scale-up, and thorough assessment of contaminant fates for the purpose of ensuring chemical and microbial safety during effluent reuse practices.

Structure du projet/WPs :

Work package No	Work Package Title
1	Project Coordination and Management
2	AnMBR Energy Footprint

	Optimization
3	Evaluation of Persistent Chemical Contaminant Removal by AnMBR
4	Reduction of Microbial Threats by AnMBR
5	Tertiary Treatment for Broadening of Potential AnMBR Reuse Applications
6	AnMBR System Life Cycle Analysis (LCA)

Axe(s)/Domaine(s) d'applications(s) du réseau/TRL : Projet technologique alimentant les problématiques de l'axe Filières/Reuse rural, urbaine et pour l'industrie et Réuse pour les pays du sud / Projet à TRL: 3-4-5