ECO-FRIENDLY CERAMIC MEMBRANE BIOREACTOR (MBR) BASED ON RECYCLED AGRICULTURAL AND INDUSTRIAL WASTES FOR WASTE WATER REUSE

Fact Sheet

Project information

REMEB

Grant agreement ID: 641998
Project website

Funded under:
H2020-EU.3.5.4.

Overall budget:
€ 2 361 622,50

EU contribution
€ 1 869 853,88

Coordinated by:
SOCIEDAD DE FOMENTO AGRICOLA CASTELLONENSE, S.A.
Spain

Start date
1 September 2015
End date
31 August 2018

Objective

The main objectives of the REMEB project are the implementation and validation of a low-cost ceramic membrane bioreactor (MBR) in a Waste Water Treatment Plant (WWTP), the study of the impact and replication of the technology for the reuse of the water in regions with water scarcity and the industrial sector, and finally, the definition of a proper business plan to start the commercialization of the technology, once the project will be finished.

The low cost recycled ceramic membranes of the project are based on residues obtained in agricultural and industrial processes (sub-products), such as olive oil solid wastes, marble working wastes and chamotte from fired scrap, in addition to the typical raw materials used in the ceramic tile industry. The project aims to achieve several specific objectives: valorization of wastes from different agricultural or industrial processes, manufacturing of an innovative product using recycled materials, validation of a new MBR with a lower initial and running costs by using low cost ceramic membranes and comparison between REMEB MBR and the MBR in operation in the WWTP selected for the validation.

Replication of both, manufacturing and validation tasks, is assured by repeating the processes in the facilities of some participants. Manufacturing membrane replicability will be performed in Turkey and Italy. The replication study of the MBR implementation in the urban and industrial wastewater sector will be performed in Colombia and nearby countries, Cyprus and nearby countries and Europe. Furthermore,
evaluation of the environmental impact of product and process will be carried out by the method of LCA. Finally, a marketing and dissemination plan of the technology will be done by the entire consortium. It is expected that this technology would be implemented massively, principally due to the low cost of REMEB MBR (3.5 times lower than a MBR of organic membranes and 2.5 times lower than a ceramic MBR).

Field of Science

/engineering and technology/environmental biotechnology/bioremediation/bioreactor

Programme(s)

H2020-EU.3.5.4. - Enabling the transition towards a green economy and society through eco-innovation

Topic(s)

WATER-1a-2014 - First application and market replication

Call for proposal

H2020-WATER-2014-two-stage

See other projects for this call

Funding Scheme

IA - Innovation action

Coordinator

SOCIEDAD DE FOMENTO AGRICOLA CASTELLONENSE, S.A.

Address

Cl Mayor 82-84 Complejo San Agustin
12001 Castellon
Spain

Activity type

Private for-profit entities
(excluding Higher or Secondary Education Establishments)

EU Contribution

€ 349 731,38

Contact the organisation

Participants (11)
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<tr>
<th>Organisation Name</th>
<th>EU Contribution</th>
<th>Address</th>
<th>Activity type</th>
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<tr>
<td>ATLANTIS PERIVALLON KAI KAINOTOMIA LIMITED</td>
<td>€ 85,548.75</td>
<td>Ioanni Grypari 2 Trust House 1st Floor Office 104 1090 Nicosia</td>
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<td>UNIVERSITAT JAUME I DE CASTELLON</td>
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<td>Avenida Vicent SOS Baynat S/N 12006 Castellon De La Plana</td>
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<td>SERAMIK ARASTIRMA MERKEZI AS</td>
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<td>Anadolu Universitesi Yunusemre Kampusu Etgb Anadolu Technoloji Parki 107-103 26480 Tepebasi Eskisehir</td>
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