

## Demonstration of Anaerobic Membrane Bioreactor technology for valorization of agro-food industry wastewater

### COORDINATING BENEFICIARY:

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### OBJECTIVE:

Development and demonstration of AnMBR for the treatment of wastewater from agrofood industries.

- Construction and validation of a demonstrative mobile prototype for in situ operation in the operating conditions of the enterprises, with effluents with high content in oil & grease and organic matter.
- Reduction of the global carbon footprint and fossil fuel consumption, increasing the biogas generation, enabling its valorization in the heating facilities of the industries. Reduction of generated waste volume to be managed. Improvement of the treated water quality and its possible reutilization.

### DESCRIPTION:

Agrofood industries produce wastewater with high organic biodegradable matter concentration. Oil and grease are removed by means of chemical processes generating a high production of wastes in the form of sludge, requiring a specific and expensive management. On the contrary, anaerobic decomposition of oil and grease allows obtaining biogas and reducing the use of fossil fuels. However, oil and grease cause operative and biological problems in traditional wastewater treatment bioreactors.

Anaerobic membrane bioreactors (AnMBR) combine anaerobic biological processes (by means of a UASB reactor) with physical membrane separation processes. Biomass-effluent separation by membranes avoid the operative problems, and indirectly, the biological problems from oil and grease. This system allows biogas production with a high methane content from oil and grease, decreasing sludge production and the chemical reagents consumption.

### INDUSTRIES:

Food and beverage industry

### MORE INFORMATION:

<http://www.life-woganmbr.eu/>