# ACTIONS

### **Project management**

### Comunication and dissemination

- Project website and information boards
- Layman's report
- Others dissemination actions

### Monitoring

- Effectiveness and viability
- Environmental impacts
- Socio-economic impact

### **Implementation**

- Prototype plant design and construction
- Prototype plant implementation and follow-up

### **Preparatory actions**

- Selection of the demonstrator's site
- Assessment of the prototype configuration

# What is LIFE Environment Policy and Governance?

It is one of the strands of the European Union's main funding programme, whose aim is to support technological projects that offer significant environmental benefits. This programme also helps projects that improve the implementation of EU legislation, that build the policy knowledge base and that develop environmental information sources through monitoring. LIFE Environment thematic sections offering a selection of projects and their results: air and noise, energy, environmental management, industry-production, land-use and planning, risk management, services and commerce, waste and water.



# Membranes for ENERGY and WATER RECOVERY

Innovative investment for sustainability in the wastewater treatment

LIFE programme
LIFE13 ENV/ES/001353

**Start date:** 01/07/2014 **End date:** 30/06/2018

**Total budget:** € 2,102,327.00

http://www.life-memory.eu/

















## Towards "XXIst century" WWTP: From wastewater to resource source



Anaerobic Membrane Bioreactor Technology (**AnMBR**) combines anaerobic digestion with ultrafiltration membrane technology and allows the sustainable wastewater treatment. Thanks to **energy generation** in form of methane and **resource recovery**, the carbon footprint of the treatment plant and the emissions of greenhouse gases are minimized at the same time.

Biogas with a Ultrafiltration membranes high energy that allow the retention of value anaerobic biomass and obtain high quality water FILTERED (MEMBRANES) WATER **ORGANIC** NUTRIENTS **BIOLOGIC PROCESS** (ANAEROBIO) Anaerobic process where microorganisms degrade the organic matter contained in the wastewater and transform it Stabilized Nutrient rich water into methane biosolids suitable for reuse

Closing cycles for sustainability...

One of the principles of **circular economy** is the water reuse. It stops being a marginal resource to become an essential tool to avoid water scarcity. It is part of the solution to the sustainable water use model.



The **MEMORY project** aims to demonstrate the feasibility of this innovative treatment technology, **AnMBR**, for the treatment of urban wastewater. The implementation of the prototype in the facilities of Alcázar de San Juan WWTP (Ciudad Real, Spain) is a step forward in the current concept of wastewater treatment. This project contributes not only to the development of new environment-friendly processes, but also highly sustainable.

The application of this technology will result in the **reduction** 

- energy consumption per m³ of treated wastewater, up to 70% less compared to conventional processes.
- not greenhouse gases emission per unit of COD removed from the influent wastewater up to 80%, reducing significantly the carbon footprint
- **space requirement** (in m²) for the treatment facilities compared to the conventional ('aerobic') WWTPs by 25%.
- residuals production by 50%.