

# INNOVATIVE COMBINATION OF WWT TECHNOLOGIES FOR WATER REUSE:

Anaerobic-Aerobic  
Microalgae & AOP Processes

## THE PROJECT

LIFE AMIA project is an innovative demonstration European Project, framed within the LIFE 2018 call, with a total budget of 1,945,914 €. The project lasts 40 months, from September 2019 to December 2022.

LIFE AMIA aims to reuse wastewater in agricultural irrigation and aquifer recharge to protect aquatic environment against pollution caused by pathogens and micropollutants not removed by conventional wastewater treatment plants (WWTP), at significantly reduced energy requirements.

The demonstration plant will be implemented in Alhama de Murcia (Spain) with a capacity of 12m<sup>3</sup> /d.

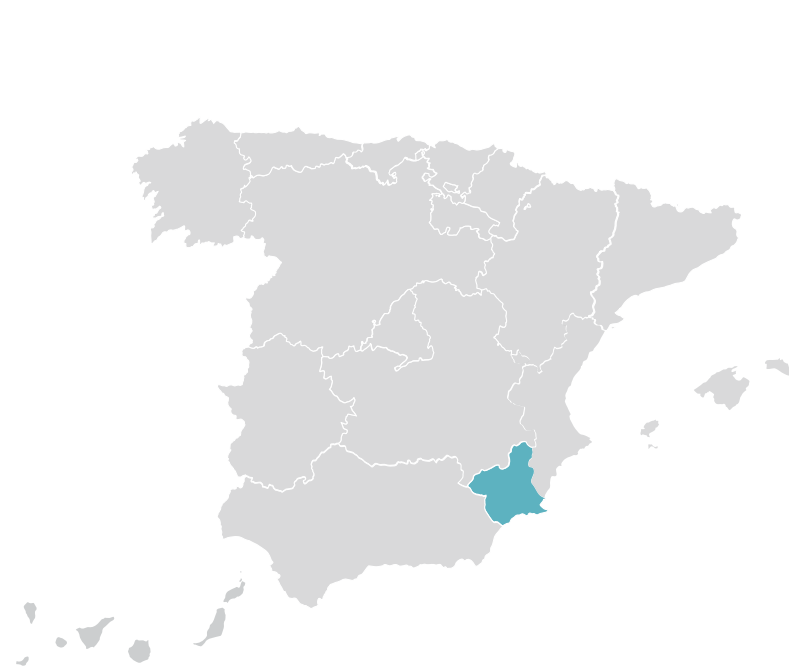


Figure 1: Alhama de Murcia location



Figure 2: Alhama de Murcia Wastewater Treatment Plant

## SPECIFIC OBJECTIVES

- To reuse wastewater in agricultural according to the new European Water Reuse Directive.
- To provide an energy self-sufficient system to treat municipal wastewater.
- To reduce the environmental impact of the produced sludge, reducing sludge production and minimizing the management costs.
- To reduce the carbon footprint and GHG emissions.
- To remove micropollutants and pathogens from the wastewater.
- To recover nutrients (algae) to be used as biofertilizer.
- To introduce metagenomic techniques for the quantification of microorganisms.

## THE TECHNOLOGY

LIFE AMIA technology is a novel process consisting of an anaerobic-aerobic compact treatment, a microalgae raceway and a combination of adsorption and oxidation process (AOP). The new concept of WWTP will recover nutrients (algae) and reduce the net energy consumption and consequently reduce the emissions of greenhouse gases (GHG) by means of:

- Anaerobic treatment that produce biogas and consume less energy.
- Microalgae treatment with low energy requirements.
- Adsorption & Electrooxidation technology supplied by renewable energy.

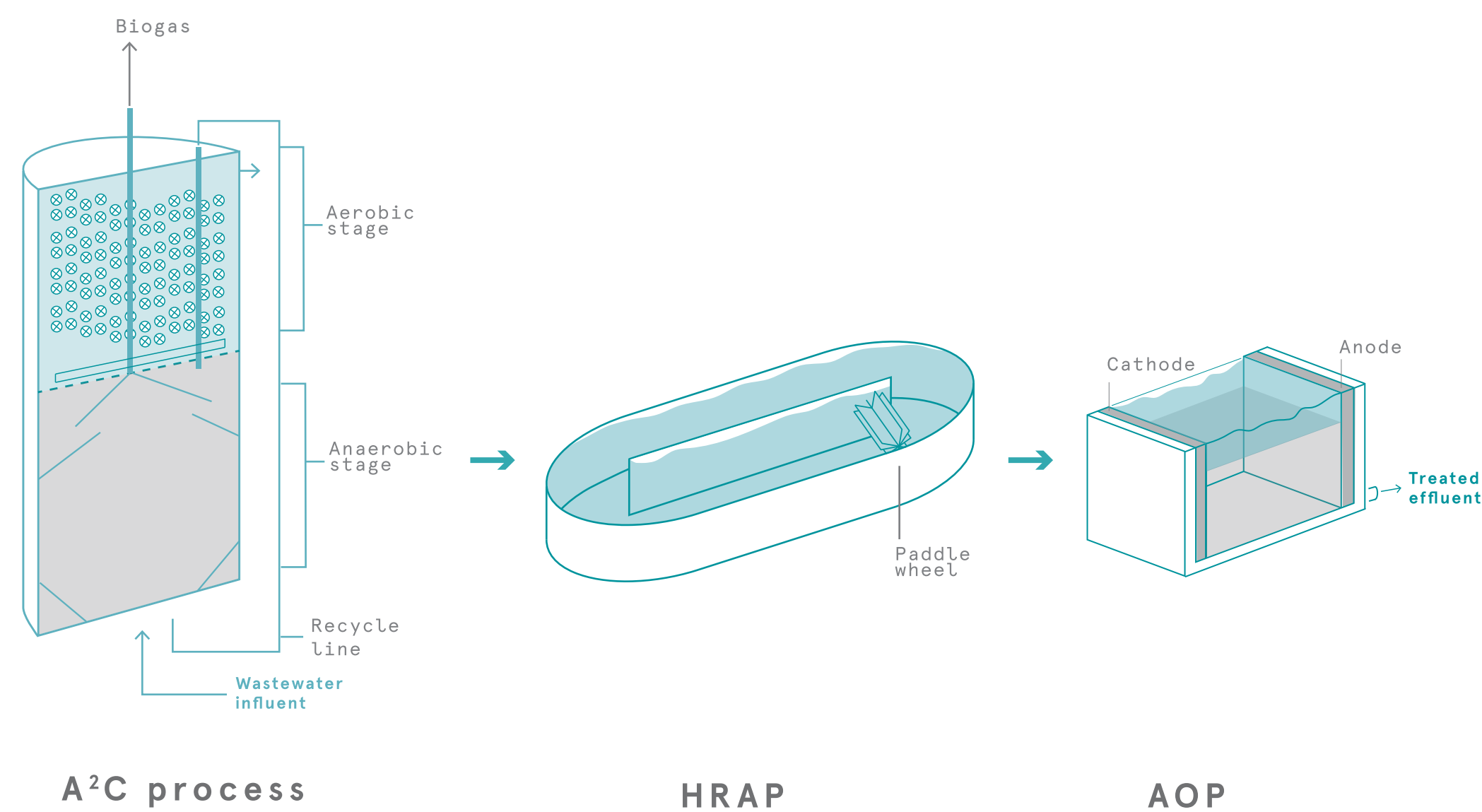


Figure 3: Scheme of LIFE AMIA demonstration plant

## PROJECT PARTNERS

LIFE AMIA project is carried out by the consortium integrated by six partners from Spain, United Kingdom and Cyprus, of the scientific, public and private sectors: FACSA (Sociedad Fomento Agrícola Castellonense), ESAMUR (Entidad Regional de Saneamiento y Depuración de aguas residuales de la Región de Murcia), IPROMA (Investigación y Proyectos Medio Ambiente), CEBAS-CSIC (Consejo Superior de Investigaciones Científicas), ARVIA Technology and ATLANTIS Consulting.



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