Aerial view of demo plant at El Bobar WWTP (Almería)

1. Anaerobic pretreatment (PUSH) and biogas upgrading (ABAD Bioenergy®)
2. Biomethane refuelling station
3. Nutrients recovery from sludge
4. Photo-Phenton solar tertiary treatment
5. Fertigation field tests

Total budget 1,902,784 €

UE contribution 1,041,810 €

Location El Bobar WWTP (Almería, Spain)

Duration 3 years (01/07/2019 to 30/06/2022)

With the contribution of the LIFE financial instrument of the European Union LIFE18/ENV/000165

ulises

@Life_ULISES

Visit www.life-ulises.eu

With the collaboration of:

ALMERÍA CIUDAD

ulises

Upgrading wastewater treatment plants by low cost innovative technologies for energy self-sufficiency and full recycling

aqualia
Project coordinator

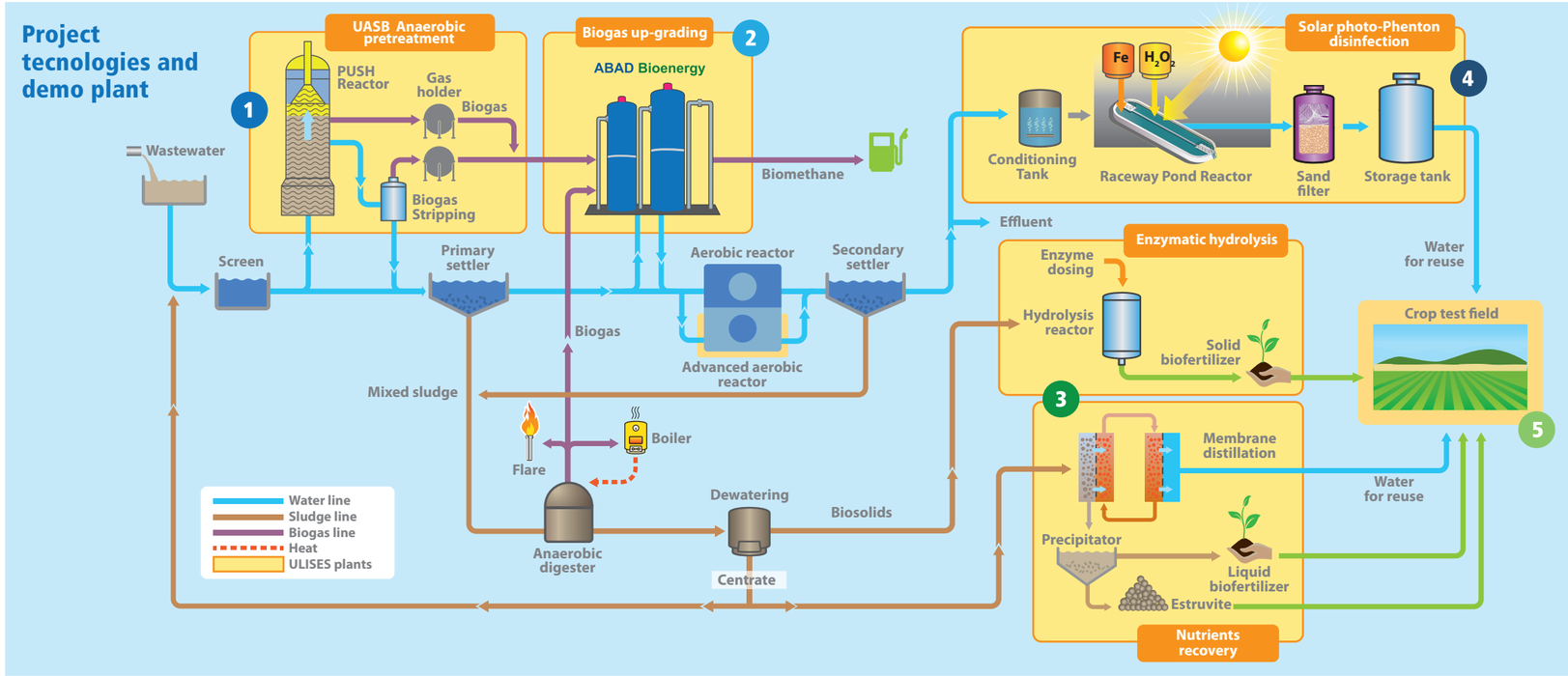
Technological Centre

energylab

CIESOL

The main goal of LIFE Ulises Project is to upgrade conventional WWTPs by different innovative technologies that produce useful resources from wastewater, such as automotive biofuel, biofertilizers and water for reuse. The project aims to reduce energy consumption and minimize the carbon footprint of WWTPs, increasing their efficiency by the integration of different technologies in each of their lines (water, gas, sludge).

Project tecnologies and demo plant



1

ANAEROBIC PRETREATMENT IN UASB REACTOR: PUSH® SYSTEM

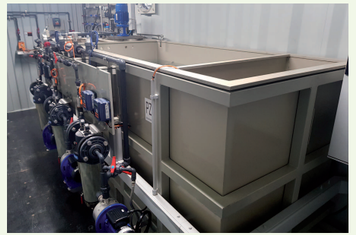
Raw wastewater is anaerobically treated in a 15 m^3 UASB reactor at ambient temperature to degrade organic matter and produce biogas. A pulsed solid hydrolyser system (PUSH®) improves conventional UASB design.

2

BIOGAS UP-GRADING BY WATER SCRUBBING: ABAD BIOENERGY® SYSTEM

Biogas is converted in a sustainable biofuel, called biomethane. A novel up-grading system, ABAD Bioenergy®, uses wastewater as absorption media to produce 10 Nm^3/h biomethane from raw biogas. Then, biomethane is compressed and stored at 300 bar to refuel CNG vehicles.

3



NUTRIENTS RECOVERY FROM SLUDGE

Obtaining high added value fertilizing products from digested sludge by two complementary technologies in sludge line:

1. Production of high quality fertilizer from dewatered sludge.
2. Recovery of struvite from centrate (liquid fraction after centrifuge).

4

PHOTO-PHENTON SOLAR TERTIARY TREATMENT

Solar-based tertiary treatment process to reach full disinfection and removal of emerging pollutants.

5

FERTIGATION FIELD TESTS

Reuse of disinfected wastewater and biofertilizers in fertigation tests in a 400 m^2 crop field.