



LIFE METHAMORPHOSIS PROJECT



With the contribution from the European Union's LIFE financial instrument



Treatment of wastewater to produce reusable water and biomethane for the transport sector, thus mitigating greenhouse gas emissions

Project description

The aim of the LIFE+ Methamorphosis project is to recover energy from organic solid waste from both urban and agricultural livestock sources to obtain alternative and sustainable fuels. The first objective is optimise the use of energy in the treatment of leachate coming from the treatment of the organic fraction of municipal solid waste by implementing innovative anaerobic and autotrophic processes applied in series:

- 1) The AnMBR (Anaerobic Membrane Bioreactor) system, and
- 2) the ELAN® autotrophic nitrogen removal system.

The application of this innovative treatment line in the ECOPARC2 plant in Barcelona will maximise energy recovery from municipal waste and provide significant environmental improvements in the treatment of such waste. The

expectations are for a 70% reduction in energy demand by the treatment process and an 80% reduction in CO₂ emissions associated with the process, compared to the aerobic membrane technology currently installed at the plant.

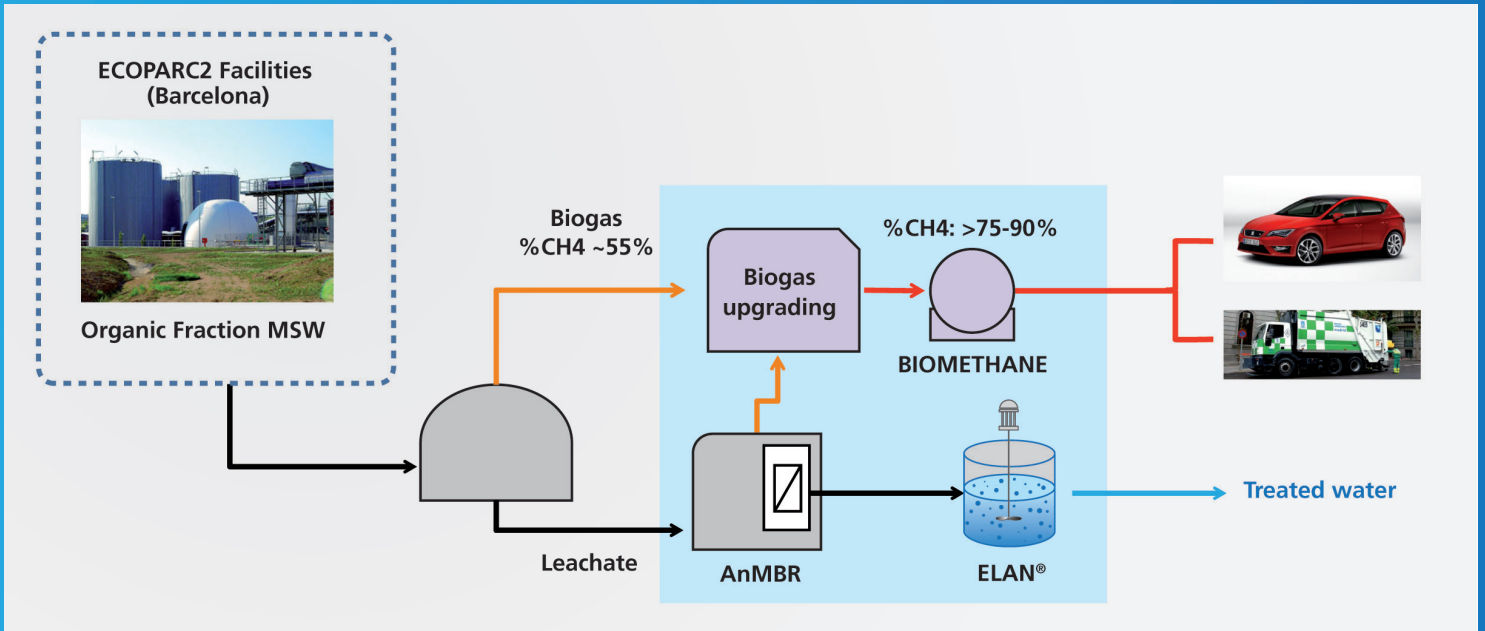
Simultaneously, novel systems based on absorption in water (the ABAD system in ECOPARC2) and the use of membranes (METHAGRO system in a cattle farm plant) will be implemented to produce bio-methane from biogas and either put it to direct use in the transport sector or inject it into the natural gas distribution network. The technologies that will thus be demonstrated on a scale plant during the project will contribute to improving air quality, especially in densely populated areas, since emissions from a vehicle powered by biomethane are lower than those from vehicles powered by gasoline (-25 %) in terms of CO₂ and considerably lower (-85%) in local emissions such as nitrogen oxide compared with diesel engines.



Location: Ecoparc2 de Barcelona

Duration: From the 16th of July 2015 to the 30th of June 2019

Total Budget in Euro: 3,642,167 € **Aqualia:** 837,049 €



The project will contribute to the overall objective of moving towards a resource-efficient economy and the protection and improvement of environmental quality. Specifically, it aims to contribute to the development and demonstration of innovative technologies, methods and instruments designed to mitigate climate change, and their scaling, transfer or incorporation into other sectors.

PROJECT PARTICIPANTS

- FCC Aqualia, S.A. (leader)
- FCC S.A.
- AMB
- Gas Natural
- ICAEN
- SEAT



aqualia



Àrea Metropolitana de Barcelona



Generalitat de Catalunya Institut Català d'Energia



DETAILS OF FUNDING

Funding: Programme for the Environment and Climate Action (LIFE): Sub-programme for Climate Action.

Organism: European Commission (EC).

Project: LIFE14/CCM/ES/000865.

Grant: Subsidy of 60% of budget.

Funding Received
Total Budget in Euro: 2,089,200 €
Aqualia: 837,049 €