Results

Treatment of a minimum of **2 m^3/day of fruit and vegetables processing industry (FVPI)** wastewater in a solar-powered prototype.

Placed in containers

Easy to transport and install / unistall

Obtain a high quality final effluent, **100%** free of pathogens and xenobiotic compounds that can be reused or discharged into watercourses.

Reduce the cost of FVPI treatment over **80%** when comparing with a traditional aerobic treatment plant, by using solar radiation and biomass.

Reduce by **100%** the environmental impact and the nutrient losses associated with waste sludge generation in traditional aerobic treatment systems and its (usual) landfilling.

Microalgae powder collected to obtain a commercial interest product as a raw material for the production of biofertilizers, animal feed, bioplastics, etc.

subproduct generated

Contact

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Partners

CENTRO TECNOLÓGICO CARTIF

algen algal technology centre

HUERCASA SABOREA EL COUNTRY

National Technical University of Athens

VIPI

Life ALGAECAN

Adding sustainability to the fruit and vegetable processing industry through solar-powered algal wastewater treatment

0 % Waste

100 % Circular Economy

Life

The **LIFE ALGAECAN** project (LIFE16 ENV/ES/000180) promote the fulfilment of important directives and EU priorities relative of the Water Framework, the landfill of waste, the integrated prevention and pollution control and the promotion of the use of renewable energies in the European Union.

Europe is the world's second largest producer of fruit and vegetables; fruit and vegetables processing industry (FVPI) is one of the largest industrial sectors in Europe in terms of production, growth, consumption, and export.

The LIFE ALGAECAN project proposes a sustainable treatment model of effluents with high organic load that combines cost-effective **heterotrophic microalgae cultivation** with **spray drying** of the collected microalgae to obtain a product of commercial interest as **raw material** for the production of biofertilisers, animal feed, bioplastic, etc.

The technology to be applied in the project is an **innovative** concept for wastewater treatment, its **reuse** and **resource recovery** to obtain a high quality water stream . The prototype will be powered by renewable energies (solar energy supported by biomass), which will minimise the carbon footprint and operating costs of the process.

The final effluent quality will be very high, allowing reuse for equipment cleaning or irrigation purposes.

Project total: 1,728,018 €
EU funding: 1,033,569 €
October 2017 - December 2020

The use of water will always be an important part of the FVPI, which has become the principal target for pollution prevention in this sector.
When fruits and vegetables are cleaned and processed, their residue is transferred into the water in both solid and dissolved form.

The proposed system:

- ✓ Is a universal solution independent on the fruit and vegetable processing effluent composition and it is capable of eliminating the chemical and biological constituents, making it very practical for its use in any facility and easy to operate and maintain.
- ✓ Helps European authorities to comply with the environmental directives to improve environmental quality, which is considered essential to health and well-being.