

# Life SOLIEVA



*Circular economy applied to the treatment  
of table olives brines based on solar evaporation*



The LIFE SOLIEVA project has received funding from the LIFE programme of the European Union

LEADER



PARTNERS



## PROJECT LOCATION:

Spain and Greece

## DURATION:

Start: SEPTEMBER 2018 - End: DECEMBER 2021

## PROJECT'S IMPLEMENTORS:

Coordinating Beneficiary: CTM-EURECAT- Centro Tecnológico de Cataluña (Barcelona)

Associated Beneficiaries: CITOLIVA (Jaen), CTC (Murcia), NSV (Sevilla), PEMETE (Athens) and TYPSA (Barcelona)

Project funded by the European Union through the LIFE Programme  
(LIFE Environment & Resource Efficiency)

Total budget approved by the Commission: 2,122,480 €

EU Contribution: 1,273,486 €

## BACKGROUND



Olives pickling is a strategic sector for the EU, in particular in the Mediterranean regions. The average annual Table Olive (TO) production in the EU is around 841.500 tonnes of the world total production of 1.684.700 tonnes (2015, IOC).

The production process of TO generates different effluents in each one of the elaboration stage, so wastewater is generated (TOPWW).

The treatment of TOPWW is extremely complex due to its composition and the seasonality of the effluents generated. The conventional treatments, mainly based on biologic technologies, are not effective because the high conductivity, free NaOH and high COD, especially the presence of polyphenols which inhibit the biological activity.

Currently, all effluents from TOPWW are accumulated in open evaporation ponds. The sludge from the evaporation ponds, after being treated by conventional evaporator depending on water content, is disposed in landfills. However, bad practices in pond construction and preservation of evaporation ponds entail a high risk of contamination due to waste leakage and migration into groundwater and deep soil.

## OBJECTIVE

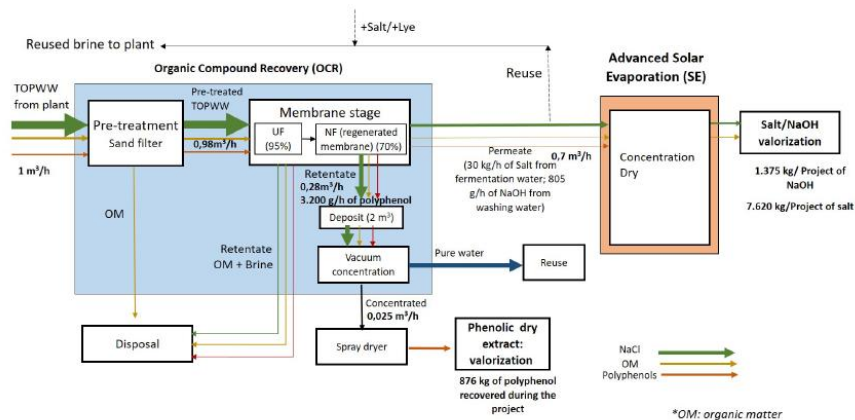
To demonstrate the technical, environmental and economic feasibility of the treatment by means of the SOLIEVA process of the different table olive production wastewater (TOPWW) to reduce the environmental risk related to untreated TOPWW accumulation ponds.

The project will address this environmental problem through **circular approach**.

## OBJECTIVE – DEMONSTRATION PLANT

The proposed solution is based on resource recovery by means of membrane and adsorption resins technologies and solar evaporation removing the need of the current ponds through enhancement of natural evaporation rate.

This process will recover the salt and the NaOH from the brines of the production process to use in other applications as well as valuable organic compounds (as phenolic compounds) and will ensure zero liquid discharge (ZLD).



## EXPECTED RESULTS

The main result expected after the execution of the SOLIEVA project is the validation of working parameters to scale up SOLIEVA technology as a sustainable management system of TOPWW. With the performance evaluation of the technology at a pilot scale, the environmental, technical and economic feasibility of the SOLIEVA TOPWW management system will be demonstrated. The LIFE project will serve to design the technology at full scale and reach EU TO market and other agrofood sectors with similar brine treatment challenges.



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