

# EXTRACTION OF SUSTAINABLE SUGARS FROM ORGANIC WASTE



About **35%** of biowaste is sugars an essential building block needed by biorefineries.



**“We use the most sustainable, available and low-cost competitive feedstock possible – urban biowaste - and we obtain highly valuable sugars”**

Ines Del Campo, Senior Researcher at CENER

## HOW CAN THE EXTRACTION OF SUGARS FROM BIOWASTE BE OPTIMISED, TO ENSURE A BROADER MARKET UPTAKE OF THIS REVALORISATION PROCESS ?

### ➤ WHAT?

CENER is successfully demonstrating the benefits of increasing the concentration of solid organic waste loaded for the Enzymatic Hydrolysis processes.

This solution results in the obtention of a highly concentrated sugar syrup, which brings several advantages:

- It improves the conservation of the extracted sugar molecules.
- It is more environmentally sustainable as it helps to save water.
- It facilitates the scaling up of the process as it reduces operating costs (since it reduces transport costs, requires smaller equipments and uses moderate temperature).

### ➤ HOW?

Enzymatic Hydrolysis is a process that uses enzymes, water and moderate temperature to break down the polymers available and release the simple molecules such as sugars (i.e.: glucose, fructose) from the biowaste.

The downside of this process is that it requires a significant amount of water, leading to highly diluted sugar molecules.

In this sense, CENER is working in using a high solids load enzymatic hydrolysis process integrated with a series of downstream purification and concentration steps to achieve a higher conversion yield.

### ➤ WHEN?

The technology is currently being demonstrated at TRL 6/7. To prepare market readiness, CENER is performing demo scale assays using 3000 litre batches.

### Contact

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### Want to learn more about sugar extraction?

- Listen to our webinar on **Technologies for urban biowaste and wastewater valorisation.**
- Read our scientific poster on **Valorization of urban biowaste into biobased products.**
- Discover our **SCALIBUR project.**

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