vamos

creating value from waste

value added materials from organic waste sugars

The VAMOS project aims to showcase, at demonstration scale, the feasibility of producing and valorising second-generation sugars derived from municipal solid waste (MSW).

MSW is composed of either mixed domestic residual waste or waste rejected from sorting and recycling processes. Even after recycling, MSW contains significant quantities of paper and card-based materials from which second-generation sugars can be produced. The VAMOS project will recover and valorise this waste derived lignocellulosic feedstock.

Sugar is one of the most essential raw materials for industrial bioprocessing supply chains. Currently, the sector relies on first-generation sugar from agricultural biomass such as sugar cane or sugar beet. However, this means the supply chain depends on crops that often have a high environmental and social impact and are subject to fluctuations in supply and cost.

Second-generation sugars can overcome some of these issues, although do present their own challenges such as higher dilution and lower purity rates.

The VAMOS project will produce second-generation sugars from waste. The sugar will be used to produce a range of bio-based products for non-food applications in the Fast Moving Consumer Goods (FMCG), construction, textile and furnishings sectors. The aim is to deliver competitive, sustainable, affordable and high-performance bio-based materials and products from low-value waste.

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objectives

- Reduce levels of waste being sent to landfill
- Reduce environmental plastic pollution levels
- Reduce the amount of suitable food producing land diverted to first-generation sugar production
- Increase sustainability in key sectors such as construction
- Support a reduction in the current high price of bio-based materials

expected impacts

- Create a new cross sectoral interconnection by converting the organic fraction of waste into bio-based products
- Develop new value chains for second-generation sugars, assessing the feasibility and potential in technical, economic and environmental terms
- Create a range of bio-based products, assessing their properties and financial viability
- Demonstrate and establish financial opportunities for recovering lignocellulose from MSW and increase the value of the material

partners

This project has received funding from the Bio-Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 837771.