

Turning non-recyclable mixed plastic waste into next-generation biodegradable and recyclable packaging.

UPCYCLE is a Horizon Europe project that turns non-recyclable mixed plastic waste into next-generation highly recyclable and/or biodegradable packaging materials. Building on the H2020 UPLIFT results, which reached TRL5–6 (small pilot scale), UPCYCLE advances these technologies to TRL7, addressing key challenges in scalability, process intensification, and industrialisation. With 19 partners across 10 countries and 7.9€ million in funding, the project focuses on four real-world packaging use-cases (salad and cheese films, beverage bottles, and personal-care rigid packaging). By combining chemoenzymatic depolymerisation, microbial upcycling, and eco-design principles, UPCYCLE aims to cut greenhouse-gas emissions by 30% and reduce production costs by up to 40% compared to current bioplastics.

PARTNERS



TARGETED APPLICATIONS



Vegetable flexible packaging (salads)



Short-lifetime deli packaging (cheese)



Beverage bottles (e.g, liquid kefir)



Personal care bottles (shampoo)

Project name: sUstainable PlastiC biorefinerY for reCyclable and biodegradabLE packaging

Project acronym: UPCYCLE
Grant Agreement No.: 101178389
Type of Action: HORIZON-IA

Call identifier: HORIZON-CL4-2024-RESILIENCE-01-TWO-STAGE

EU funding: 7.9 million €

Starting date: 1 September 2025

Duration: 48 months

Coordinator: AALBORG UNIVERSITET

