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REPurpose project enters final year

After three years of intense work, research and collaboration, the REPurpose project has now entered its fourth and final year.

From a technological perspective, important progress has been made in developing new polymer building blocks obtained from post-consumer plastics as well as paper and cardboard waste and other biowaste. For the first time, waste-derived REP polymers have been successfully produced and scaled up, paving the way for their integration into real applications!

These advances opened the way to the screening and development of innovative thermoplastic materials, which are being processed into functional prototypes for different application areas.

Beyond technology development, REPurpose is also leaving its mark in the scientific community, with some peer-reviewed publications by partners already highlighting the project's work and innovations in sustainable plastics development.

Throughout this period, the consortium has also laid the foundations for a holistic approach to *Safe-and-Sustainable-by-Design* (SSbD) plastics development. This has included the analysis of the entire value chain, its framework conditions and the identification of hazardous materials, in order to integrate sustainability principles from the earliest design stages. This approach has also involved ongoing safety analyses and comprehensive evaluations of both environmental and social sustainability, ensuring that the project's outcomes align with the broader goals of responsible innovation and circular economy.

Long-term impact and contribution to EU goals

The project goes beyond developing new solutions for circular plastics. It is also contributing to the broader sustainability goals of the European Union, supporting the transition to a low-carbon economy and helping to achieve the targets set out in the European Green Deal. By demonstrating the potential of sustainable polymer alternatives, the project is laying the groundwork for the widespread adoption of circular plastics solutions across Europe.

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By demonstrating that high-performance polymers can be made from local waste streams, REPurpose is contributing to positioning Europe as a frontrunner in sustainable plastics innovation!

Active engagement and communication

Over the past three years, REPurpose has also actively engaged with industry stakeholders, policymakers, and the wider public. The project has organized numerous workshops and participated in key events across Europe to communicate its progress and raise awareness about the importance of circular plastics. These activities have provided valuable platforms for sharing knowledge and fostering collaborations.

Looking ahead

Looking ahead, the final year of the project will focus on (1) the up-scaling of specific plastic waste depolymerization reactions towards new polymer building blocks and their repolymerization, (2) the processing thereof into newly designed product prototypes for the consumer goods, automotive and building industry, (3) the validation of the reusability of REP materials, and (4) the study of their end-of-life scenarios. As such, REPurpose will demonstrate the feasibility of truly circular and sustainable plastics solutions.

Stay tuned for more news on REPurpose upcoming results!

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