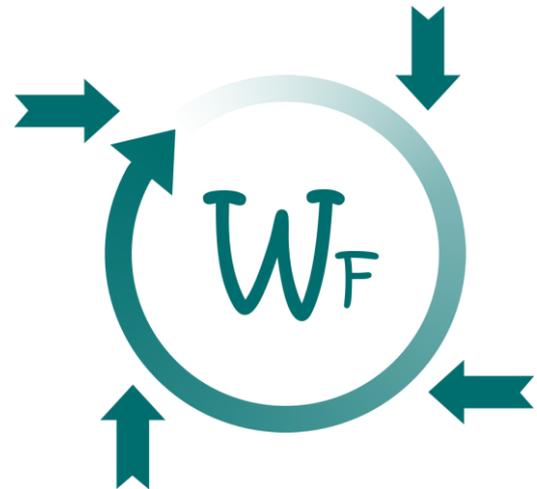


**ReWaste F
Recycling and Recovery of
Waste for Future**

Programme: COMET – Competence
Centers for Excellent Technologies

Programme line: COMET-Project

Type of project: ReWaste F, 04/21 –
06/25, multi-firm



UNLOCKING CIRCULAR ECONOMY POTENTIAL: POLYPROPYLENE RECOVERY FROM MIXED COMMERCIAL WASTE

FOR THE FIRST TIME, RECYCLABLE PLASTICS FROM MIXED COMMERCIAL WASTE
COULD BE FULLY PROCESSED INTO A MARKETABLE PRODUCT

To meet the European Union’s ambitious recycling targets, it is essential to make better use of underutilized waste streams, such as mixed commercial waste (MCW), and make them available for high-quality recycling in the context of a circular economy. Currently, the recycling rate of these waste streams is only around 3–5%.

This project successfully demonstrated that recyclable plastics, particularly polypropylene (PP), can be recovered from MCW and transformed into market-ready products. Two process concepts were developed to extract PP as a pre-concentrate and were tested at industrial scale under realistic

conditions. The recovered material was then sorted, shredded, washed, and granulated using established processing steps. The resulting PP granulate met all relevant quality standards and achieved End-of-Waste status. In total, 456.8 kg of recyclate were processed into products that meet market requirements in terms of quality and usability.

To the best of current knowledge, these are the first plastic products made entirely from mixed commercial waste. The project covered the entire value chain, from waste processing and material characterization to finished goods, and clearly demonstrates how complex waste streams can be

SUCCESS STORY

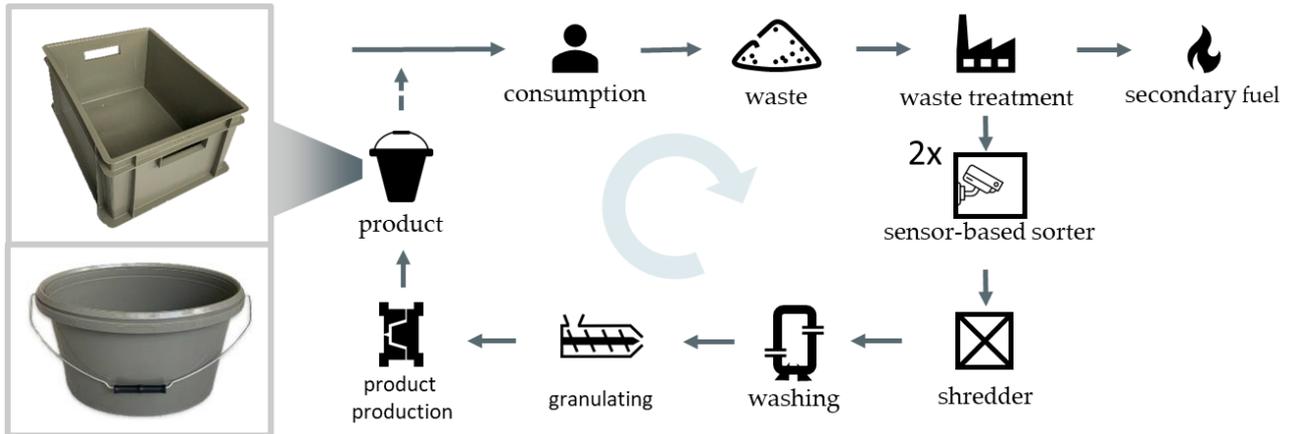


successfully integrated into high-quality material cycles.

See also published paper:

<https://doi.org/10.3390/recycling10040128>

This achievement marks an important milestone on the path toward a functioning circular economy and highlights the strong potential for industrial-scale implementation, both in Austria and across Europe.



Project coordination

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- EVK DI KERSCHHAGGL GmbH, AUT
- FH Joanneum, AUT
- IUT Ingenieurgesellschaft Innovative Umwelttechnik GmbH, AUT
- KNOW-CENTER GmbH, AUT
- Komptech GmbH, AUT
- REDWAVE - a division of BT-Wolfgang Binder GmbH, AUT
- SIEMENS AG Austria, AUT
- Mayer Recycling GmbH, AUT
- Müllex-Umwelt-Säuberungs-GmbH, AUT
- Saubermacher Dienstleistungs AG, AUT
- TÜV SÜD Landesgesellschaft Österreich GmbH, AUT

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