

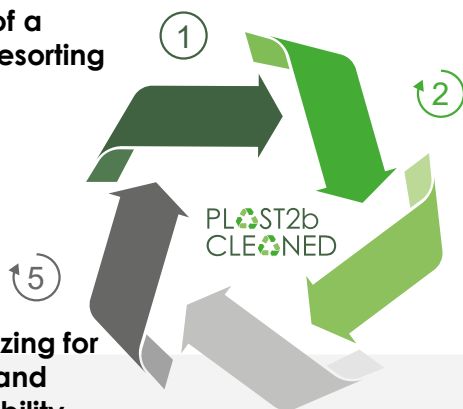
PLAST2bCLEANED

The overall aim of PLAST2bCLEANED is to develop a human and environmentally safe recycling process for Waste Electrical and Electronic Equipment (WEEE) plastics in a technically feasible and economically viable manner for the most common WEEE plastics acrylonitrile butadiene styrene (ABS) and high-impact polystyrene (HIPS) and will close three loops: (1) polymer, (2) bromine, and (3) antimony trioxide.

Development of a mechanical presorting technology

Closing 3 loops using dissolution under superheated conditions by separation of:

**(1) the polymer
(2) the bromine
(3) the antimony trioxide**



3 Process integration and scale-up

5 System optimizing for sustainability and economic viability

4 Performance testing of process and products

Results

- Sorting prototype based on RAMAN spectroscopy and ML-models
- Pilot plant TRL5/6 realized: 9 kg of recycled ABS (rABS) produced
- Mechanical properties – except impact strength - comparable to virgin ABS
- Process is much more environmentally friendly compared to incineration
- LCC screening indicates that rABS price range is competitive to virgin ABS



Increased recycling rate of WEEE



CO₂ emissions savings



Implementation of the EU Strategy on Plastics in a Circular Economy and the SPIRE PPP Roadmap

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