Bridging The Recyclate Gap
by
Credit Trading:

Certified Recycled Content

AGENDA

- Current Situation 2025: Recycling Crisis vs. High Ambition
- PPWR 2030: Recycled content quotas for plastic packaging
- Remaining challenges 2030:
 - EFSA approval for food-grade polyolefins not expected in time
 - Technical impossibility of recyclate on modern packaging machines
 - So far, design for recyclability activities not reaching market in time (flexible packaging: 40% PO-Flex waste)
 - Recyclate gap
- The Solution: Credit trading for recycled content



CURRENT SITUATION 2025

Recycling Crisis vs. High Ambition

Recycling crisis:

- Too little separate collection and sorting in EU
- So far, design for recyclability activities showing no impact on product quality, prices and yields in recycling
- Low recyclate utilisation rate, <7% high value PCR in plastic products
- Recyclers leaving the market due to too low virgin prices



EU packaging and packaging waste regulation (PPWR) with recyclate utilisation rates of 10-35% by 2030





CONTACT SENSITIVE PACKAGING REQUIREMENTS 2030

EU Packaging Regulation (PPWR) foresees recycling rates of 10% - 35% by

2030



packaging⁽³⁾
(all except PET)



2040 **> 25%**

By 01/2029, the Commission will adopt a delegated act on the calculation/review of the recycled content



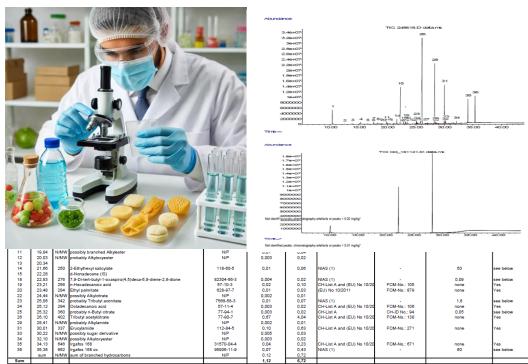
All other plastic packaging

2030 > 35%

2040 **> 65%**



EFSA permit for food grade polyolefins not expected in time (cautionary principle)







Technical impossibility of running recyclate on modern packaging machines (odour, colour, gels)





- Approx. 40% of all packaging cannot be "high value" recycled
- Taxes in England and Spain without impact



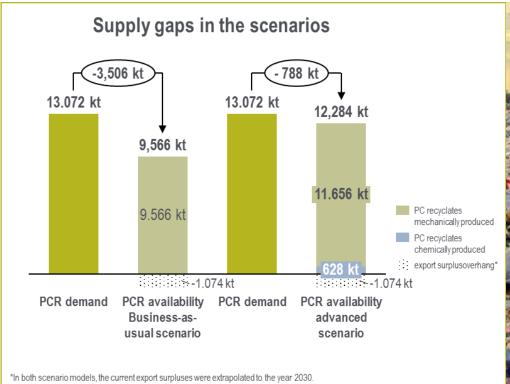


Recyclability vs. Circularity

Price





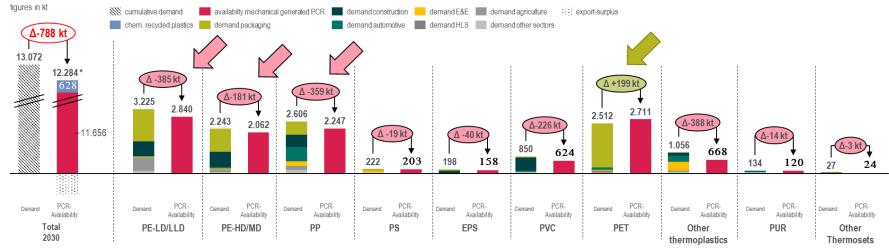






MAJOR PCR BOTTLENECKS

 GAP VARIES, IN PARTICULAR FOR POLYOLEFINS THAT ARE IMPORTANT FOR THE PACKAGING SECTOR



^{*} Post-consumer recyclates produced less export surplus; the supply GAP is calculated taking into account an assumed export surplus of 1,074 kt (unchanged from 2022)

Chemically recycled plastics only partially reduce the supply gap. Different polymers are produced from the base materials (naphtha and monomer) depending on market demand







CERTIFIED RECYCLED CONTENT



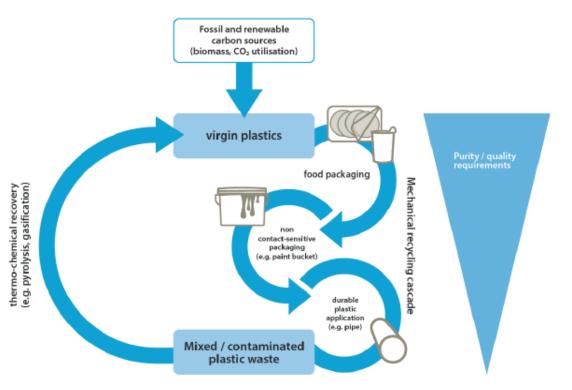
Ministerium für Umwelt, Naturschutz und Verkehr des Landes Nordrhein-Westfalen



UNDERLYING PRINCIPLE

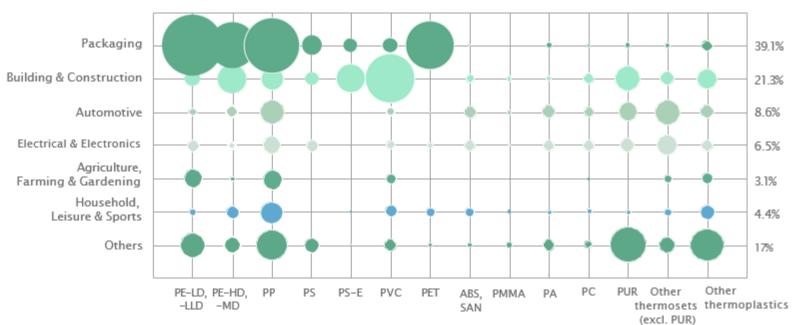
"Some product can use more, others less recycled materials.

The cascading use of recycled materials enables a long-lasting and energy-efficient use of materials. To allow for the economically most efficient use of recyclates a crediting system should be established."
(IK Industrievereinigung Kunststoffverpackungen e.V.)





EUROPEAN PLASTICS CONVERTERS' DEMAND BY APPLICATION AND TYPE



Source: Conversio Market & Strategy GmbH based on the input of the Plastics Europe Market Research Group (PEMRG) The above data are rounded estimations.

Demand data are built on estimations of quantities bought by European converters, including imports.

 $Demand\ for\ recycled\ plastics\ and\ bio-based/bio-attributed\ plastics\ is\ not\ included.$

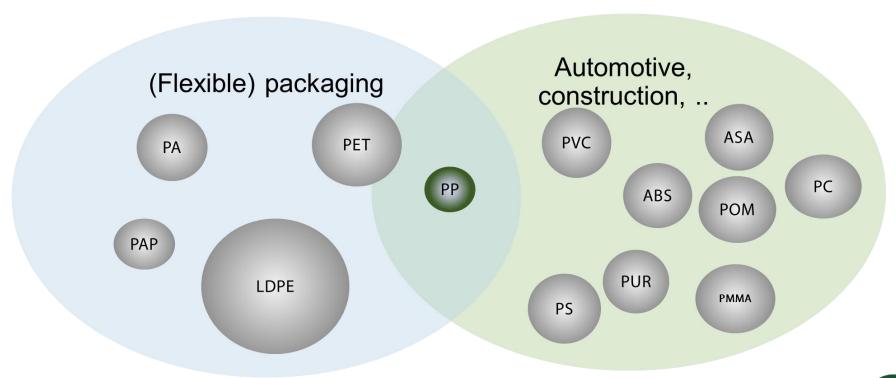
 $Polymers\ that\ are\ not\ used\ in\ the\ conversion\ of\ plastic\ parts\ and\ products\ (i.e.,\ for\ textiles,\ adhesives,\ sealants,\ coatings,\ etc.)\ are\ not\ included.$

Numbers behind this graph are available upon request. Plastics -

the Facts figures on PA only cover PA6 and PA66.



DIVERSITY OF POLYMERS IN INDUSTRY





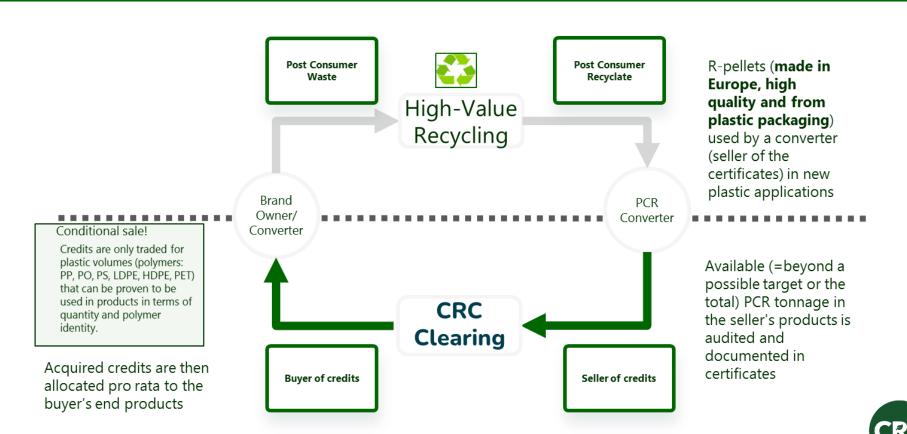
Cooperation?

Why don't we connect the two sectors working together already?





THE ENTIRE COLLABORATION SYSTEM



TRACEABILITY, EFFICIENCY



TÜV in accordance with

DIN ISO 9001

BENEFITS IN SUMMARY



Utilisation of existing sorting routes and infrastructure

- ✓ No additional bureaucracy, efficient
- ✓ Strengthening the existing recyclate market



Optimisation of the recycling ecosystem through economic incentives

Certificates will be scarce, with prices higher than the prices for physically available recyclates

- ✓ Optimisation of the packaging design
- ✓ Increasing the qualitative quantity of recyclate for all sectors



Promotion of highvalue recycling = replacing fossilbased plastics in typical polymer applications. (Definition according to German Central Body ZSVR, PPWR (Art 3.1 (41)

✓ Contribution to decarbonisation



Proof of recyclability through officially recognised test procedures

✓ Quality, traceability, safety

STRENGTHENING
THE CIRCULAR ECONOMY
FOR
PLASTIC PACKAGING
IS
CLIMATE PROTECTION





INITIAL SITUATION

- GHG EMISSION REDUCTION
- WASTE VOLUMES CONTINUE TO RISE
- UNSUFFICIENT RECYCLING RATES
- LOW RECYCLATE USE TARGETS
- 40% OF PACKAGING IS NOT RECYCLABLE (MIXED COMPOSITES)



FOUNDING

- FOUNDING "CERTIFIED RECYCLED CONTENT CRC" IN 2022/ GERMANY, NRW
- INNOVATIVE CERTIFICATE TRADING WITH THE AIM OF INCREASING THE USE OF RECYCLED MATERIALS. THE MASS EQUIVALENT CREDITSYSTEM



- POINT OF THE GERMAN GOVERNMENT'S CIRCULAR ECONOMY STRATEGY
- FUNDED BY



Kofinanziert von der Europäischen Union Ministerium für Umwelt, Naturschutz und Verkehr des Landes Nordrhein-Westfalen



BROAD INDUSTRY SUPPORT











THE TEAM BEHIND CRC

We combine the expertise of plastic conversion and high-quality recycling



Dr. Dirk Textor Managing Director

25+ years experience in plastic (packaging) recycling. **Chairman of Plastic Recycling** section of **bvse e.V.** (German Association of Secondary Raw Materials and Recycling). Strong international and national network.

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Ansgar Schonlau Managing Director

Ansgar Schonlau is an **international packaging expert with over 25 years experience** in the plastics industry. He has covered different sales and management roles, always striving for sustainable, cost-effective products and processes. Since 2018, Ansgar is owner of the climateneutral and highly innovative packaging manufacturer Maag.

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Dr. Michael ScribaManaging Director

Dr Michael O.E. Scriba is a pioneer of the circular economy for packaging. He played a key role in the introduction of the Green Dot in Germany and developed the mtm plastics group into one of the largest polyolefin recyclers in Europe. As chairman and advisor to important industry organisations and as a shareholder of a recycler, he actively shapes and advises the plastics recycling value chain.

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