

# Recycled Content Requirements

Science- and enforcement-based evidence regarding Art. 7 of the Proposal for a Regulation on Packaging and Packaging Waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC

## Lessons Learned

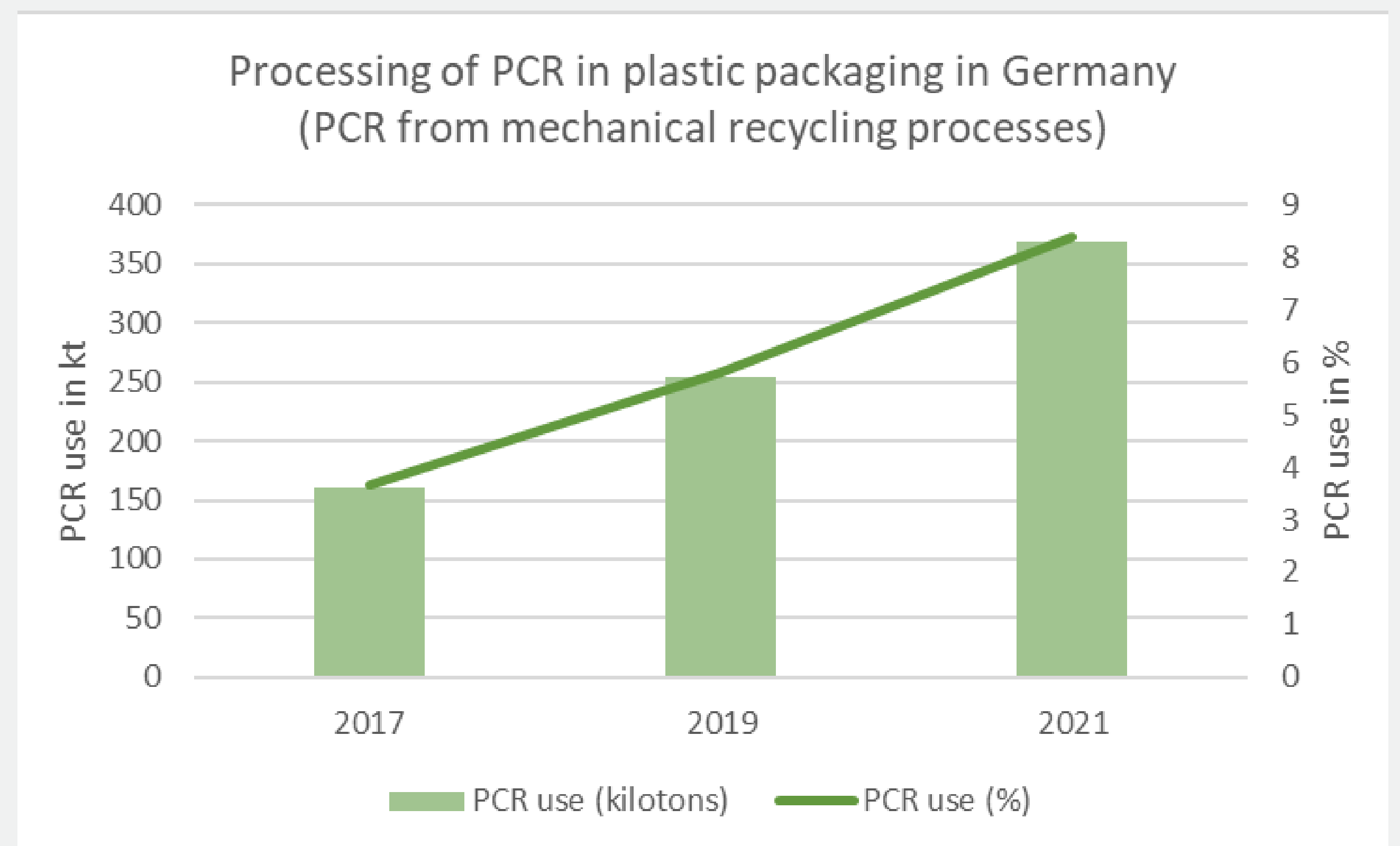
♻️ For food contact material (FCM), suitable mechanical recycling processes (in accordance with Regulation (EU) 2022/1616) must be approved. Otherwise, the recycled content requirements for FCM can only be met by chemical recycling.

🏭 Chemical recycling processes mostly require similarly pure material streams as mechanical processes, but have lower yields (especially in case of pyrolysis) and are also significantly more energy intensive. Chemical recycling must therefore not counteract mechanical recycling.

📈 Ambitious targets for mechanical recycling of plastic packaging lead to increased availability of recyclates and serve as a source for post-consumer-recyclates (PCR) used in new plastic packaging. Therefore recycling targets on mechanical recycling and requirements on recycled content should support each other.

📄 The physical presence of recycled material in a plastic packaging can only be transparently verified when using mechanically generated recyclates. In the case of chemically obtained plastic recyclates, on the other hand, only a calculated balance and allocation is possible. Traceability is clearly limited.

research project show that chemical processes also require defined input streams and cannot use all plastic waste that cannot be recycled mechanically.

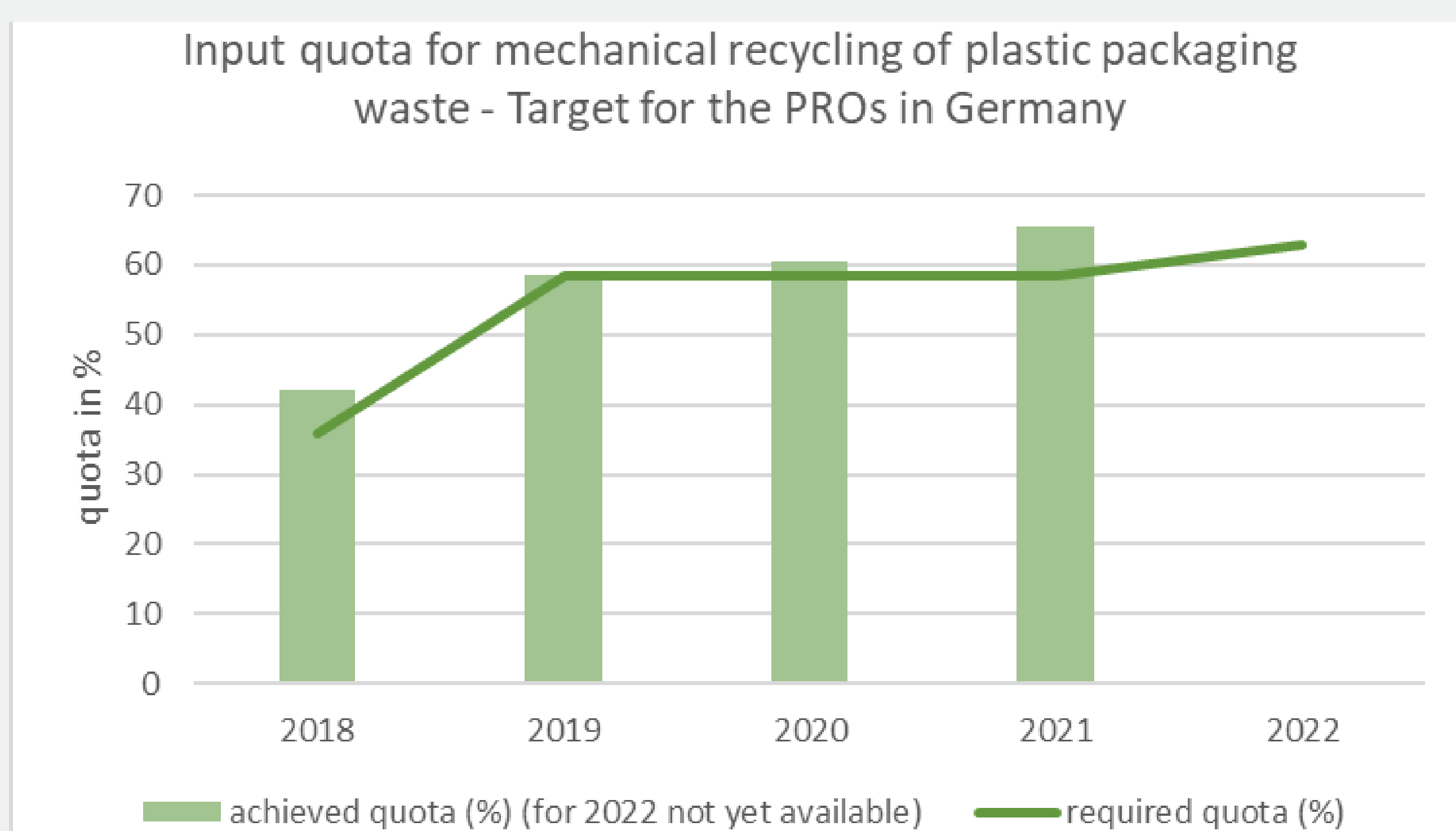


Source: Own presentation based on Conversio GmbH: Stoffstrombild Kunststoffe in Deutschland 2017, 2019, 2021

Minimum recycled content requirements differentiated according to packaging segments, e.g. for bottles, for trays, for transport films, etc., can be better adapted to the packaging specifics, the recyclate availability and the technical feasibility than quotas that only differentiate between contact-sensitive and non-contact-sensitive packaging. In areas where mechanical recyclates can be used, mechanical PCR targets should also be specified. This makes sense from an ecological point of view and can limit chemical recycling's access to waste streams that can be recycled mechanically.

The availability of suitable recyclates can fluctuate, so that meeting recycled content requirements based on individual packaging units is not always guaranteed. In contrast, with a quota to be fulfilled over the year, fluctuations could be compensated.

The lack of transparency in the calculation and verification of chemically obtained recycled content can only be countered by ensuring a direct link between the recycled material used and the end product. Arbitrary allocations of recycling shares, on the other hand, should be prevented.



Source: Own presentation based on data by the German Central Agency Packaging Register

## Background Information

The PROs in Germany must fulfill a target for mechanical recycling for plastic packaging waste (input related quota). This target was raised from 36 % to 58.5 % in 2019, and 63 % applies since 2022. In 2021, a quota of 65.5 % was already achieved. Recyclates from mechanical recycling processes have a high potential for use in plastic packaging: The use of post-consumer recyclates has continuously increased in Germany and amounted to almost 370 kt (8.4 %) in 2021.

While PET from the deposit system for beverage bottles can also be used in FCM, materially recycled polyolefins (polypropylene and polyethylene) are suitable for many non-food packaging applications, for example transport and shipping films, transport boxes, pallets, (paint) buckets or even packaging for shampoo and detergents.

Chemical recycling processes have not yet been sufficiently technically tested, and there are hardly any industrial plants in continuous operation. Questions about economic feasibility and ecological assessment, especially in comparison to mechanical recycling processes, have not been clarified. Initial results of an ongoing UBA

## Links

[Recommendations for the Revision of the Packaging and Packaging Waste Directive 1994/62/EG \(umweltbundesamt.de\)](https://www.umweltbundesamt.de/en/recommendations-for-the-revision-of-the-packaging-and-packaging-waste-directive-1994/62/eg)

[Chemical Recycling \(umweltbundesamt.de\)](https://www.umweltbundesamt.de/en/chemical-recycling)

### Contact:

Umweltbundesamt, Postfach 14 06, D-06813 Dessau-Roßlau  
VerpackG@uba.de

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Section III 1.6 Plastics and Packaging and  
Subsection Implementation of the German Packaging Act