

Circular Readiness Level® for products and product systems

How mature is your product for the Circular Economy? The Circular Readiness Level® (CRL®) indicates the extent to which principles of the Circular Economy have already been considered in a product or product system. Fraunhofer CCPE has developed an online tool to self-check the Circular Readiness Level® of products and product systems.

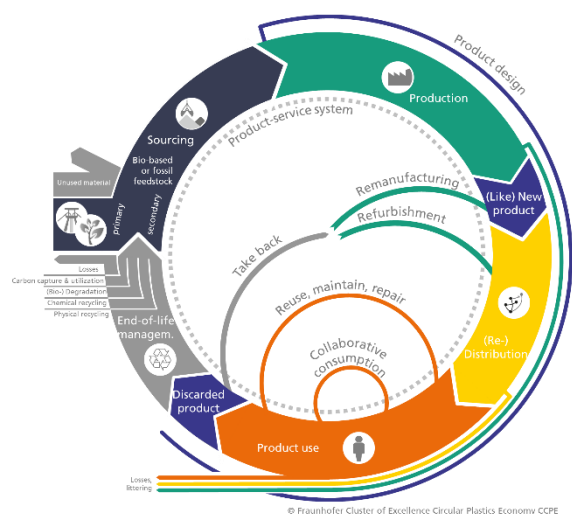
The self-check for the Circular Readiness Level® (CRL®) of products and product systems is aimed at all players along the product life cycle. From product and service designers, producers and business model developers to system service providers during the use phase and companies in end-of-life management as well as the product users themselves. All these actors have the opportunity to implement the principles of the circular economy in the four fields of action "product design", "product-service system", "end-of-life management" and "closing the loop". In addition, they can make other actors (e.g. product users) aware of the added value. There is no doubt about one thing: the transformation to a circular plastics economy can only be achieved among all players along a product's life cycle.

In order to guide companies on this path and to derive product-specific indications and options for actions leading to a higher Circular Readiness Level® of their product and product system, Fraunhofer CCPE scientists have developed the self-check for the Circular Readiness Level®.

This self-check covers the complete life cycle of a chosen product: Starting from the design of the product itself, relevant product services for offering and distributing circular products to finally preserving the material at the end-of-life and closing the loop via sourcing of secondary feedstock production and preventing products from remaining in the environment.

The four fields of action are subdivided in categories, which qualitatively reflect for example:

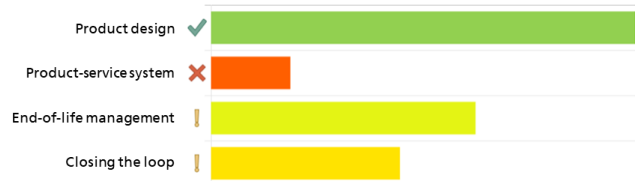
- In how far the design enables multiple-use, multifunctionality, updates or ease of disassembly in order to replace additional products or increase durability



- If the product contains substances of concern (e.g. toxic substances) or that can affect recyclability (e.g. black plastics)
- Whether the product is applicable for collaborative consumption
- If it is possible to repair, refurbish or remanufacture the product or its parts in order to increase longevity
- How the accessibility and efficiency of collection, sorting and recycling systems in the respective region is related to the product
- To what extent secondary or bio-based plastics are used or if the plastics used is (bio-)degradable, both in the environment or the recycling system.

As a result of the self-check, the Circular Readiness Level® of the product is provided at the level of the fields of action. The simple three-stepped CRL®, i.e. low, medium or high CRL®, indicates those fields, where further action is recommended.

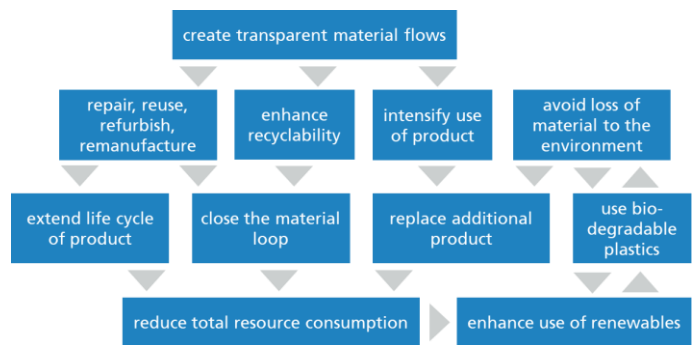
Circular Readiness Level® at the level of fields of action



This is accompanied with initial recommendations to outline how the CRL® of the selected product could be raised.

Interested companies may register as user of the online-tool and can directly start their self-check of products as well as scenarios of product variations.

The information provided will be treated confidentially and will only be processed in an aggregated and anonymous form for Fraunhofer research purposes.



Link to online tool Circular Readiness Level®: <https://ccpe.Impl.fraunhofer.de/selfcheck/login>

The Fraunhofer Cluster of Excellence Circular Plastics Economy CCPE combines the competencies of six institutes of the Fraunhofer-Gesellschaft and cooperates closely with partners from industry. Together, we work on systemic, technical and social innovations and keep an eye on the entire life cycle of plastic products.

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