

Summary of the Recommendations for action of the Circular Economy Initiative Germany



**Circular Economy
Initiative
Deutschland**

Members of the task group Packaging

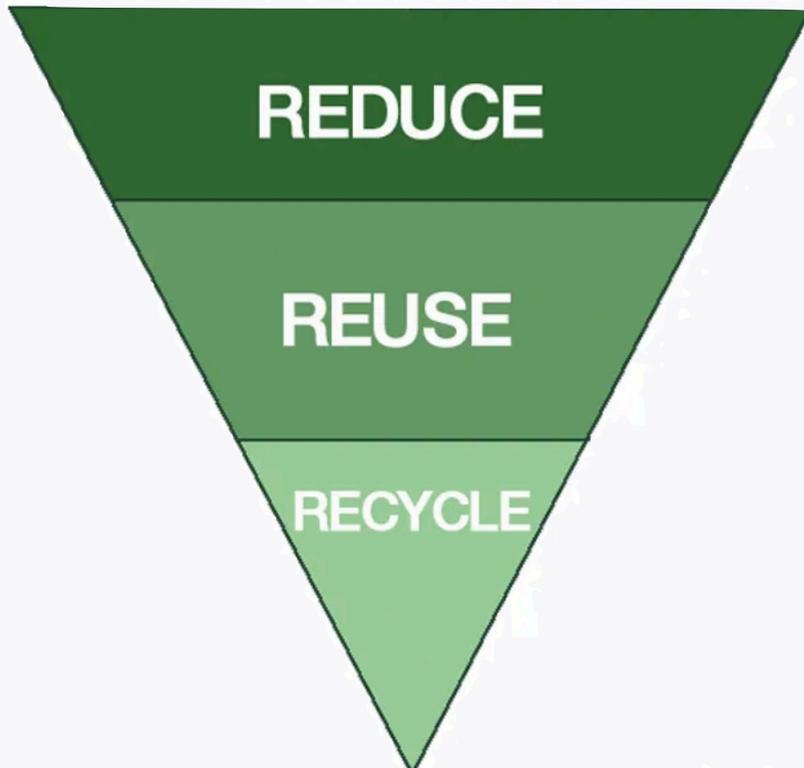


The target picture of a Circular Economy for Germany

“A systemic and sustainable circular economy contributes comprehensively to the EU target of net zero greenhouse gas emissions by 2050. It is guided by the respect of the Planetary Boundaries and the Sustainable Development Goals, mainly driven by the decoupling of economic growth from absolute resource consumption, and contributes to enhancing quality of life and ensuring equitable prosperity through collaborative, cross-business value creation and innovation”.

Waste Hierarchy

Approaches are assessed holistically and are subject to the following important principles in accordance with the circular economy hierarchy:



- 1)** The avoidance of packaging has top priority, provided that its avoidance does not increase the ecological footprint of the overall product
- 2)** All non-avoidable packaging is usable for as long as possible, reusable and recyclable to a high standard and thus designed for efficient and effective resource management;
- 3)** Material and product design is consistently such that no toxic effects occur along the value chain and harmless subsequent use is ensured;
- 4)** secondary materials or alternatives to fossil primary materials are used where appropriate and possible;
- 5)** all circularity levers are subject to an assessment of sustainability and environmental balance (LCA consideration) in order to be able to promote sustainable solution approaches.

Summary - **Overall** recommendations for action

Politics, Industry and Science

Summary - **Overall** recommendations for action

1. **Create an industrial alliance to build up and support circularity** on resource productivity (higher output of the resource) and data-driven models: e.g. product as a service, digital services and digital twins.
2. **Create standards on an international basis** regarding used or recycled products and components, quality standards and processes together with digital services and digital twins.
3. **Build up transparency** and information to allow open participation in circular models and common labels and standards to enable consumers and stakeholders to take reliable decisions.
4. **Legal definitions** to enforce design for circularity, digital product ID, responsibility of recovery and recollection, define non-reversal end of life and recycle standards and minimum content of recycled material according to product sectors. This should be realized within the EU sustainable product policy framework and sustainable product initiative.
5. **Economic bonus systems** for resource and climate efficiency to reduce taxes on product and labour to stimulate innovative approaches within the EU. Bonuses could apply on TVA for repair and maintenance services or regulation via CO2 tax or cancellation of subsidies for fossil resources.
6. **Pushing the recycling and reuse infrastructure**, enlarging the collection and handling of products at their end of life to allow further usage in the sense of circular economy.
7. **Development of new product or process innovations**, methods and tools to enable the implementation of Circular Economy like AI, market platformx, new material and resources.
8. **Public purchasing should stimulate the demand for circular products** and services via targets regarding reuse, repair and used products.
9. **Establishment of an institutional guard** to follow and promote national and international solutions towards CE.
10. **Strengthen education and knowledge transfer** to raise public awareness for CE on a university and public level.

Summary - recommendations for **industry**

By 2024: "Laying the foundations" in the short term

Industry alliance for circular business models:

1. industry should create new innovation spaces through the establishment of inter-firm coalitions that offer companies the opportunity to develop new service-based business models along CE lines.
2. develop and scale circular (business model) innovations, especially those that go beyond recycling or the use of recyclates and apply higher-value "R-strategies" such as Refuse, Repair, Reuse, etc.
3. The economy is responsible for the consistent design of materials and products and the provision of relevant data, so that the highest possible quality of reuse and material recovery is made possible after the end of life, no toxic effects occur along the value chain and the subsequent use is not negatively affected.

Standardisation:

4. Through the collaborative initiation of common (minimum) standards and a systemic design for circularity, the industry can exploit synergetic potentials at different impact levels. Individual actors as well as industry associations and standardisation associations can take action here, in particular

At the material level:

5. On the one hand, setting standardised qualities for input materials (e.g. for packaging waste) could improve economies of scale and the resulting cost reductions in recycling plants; it could also lead to higher input material purities and thus better recycling successes. On the other hand, mandating ambitious recovery rates according to defined recyclate qualities for specific materials would be an important incentive to support the recovery of high quality recyclates.

At product level:

6. This requires a focus on design for circularity of products (for example design for remanufacturing, re-use or recycling). In addition, the development of standards is needed in order to make better statements about the condition of reused, remanufactured products/components and recyclates on the basis of traceable data (e.g. product history tracking, product passport) and thus increase the confidence of market participants in used products. Where appropriate, the variety of product types (for example traction batteries) should also be harmonised.

At company level:

7. increased use of life cycle data also in corporate governance and management programmes. o At process level: this may include, for example, initiating recycling standards.

At system level:

8. embedding products and processes in resource-decoupled and sustainable process chains and across the value chain, for example by developing new platform-based business models. There is a need for industry-wide agreements that specify which operational and economic indicators can be used to measure circularity and how these indicators relate to each other. Agreements on this should be reached in particular through industry cooperation and relevant expert bodies:
9. Distinguish between economic (for example ROI on service business models), environmental (for example recovery rates) and social (for example jobs created) metrics, and consider possible interactions.
10. The provision of the data required for this can benefit both external reporting and internal monitoring in terms of internal decision-making (for example, in the context of forecasting return rates). This also includes the development of depreciation rules that facilitate the evaluation of Circular Economy measures in companies.
11. In this area, the development of digital material and product passports plays a central role, which can provide static (material footprint, serial numbers, manufacturing information, etc.) and dynamic (respective owners, maintenance measures, state of health (SoH), etc.) data efficiently, securely and user-related over the lifetime of the batteries and the materials they contain. The specific data must be defined in coordination with regulatory requirements, among other things.

Transparency:

12. Economic actors should provide relevant information and data in accordance with regulatory requirements and beyond, and promote collaborative exchange that supports resource productivity-enhancing business models. To avoid conflict with data protection, the producer should only collect and share data that is relevant to it. This requires a positive-sum-game attitude and the identification of shared interests to incentivise disclosure of usable information and transparent information sharing.
13. optimising transparency, accessibility and understandability of information to encourage purchasing decisions for sustainable products.

Education and knowledge transfer:

14. the development and implementation of basic knowledge, (initial) education and (technical) training that enable the scaling up of Circular Economy should be addressed in cooperation with policy and science. This includes:
 - Technical training, especially to ensure occupational health and safety in the handling of end-of-life (EoL) batteries and the availability of trained personnel.
 - Further development and opening of apprenticeships (for example production technology) for the Circular Economy
 - Educating the population and skilled personnel on the basic principles of the Circular Economy (for example on the topics of resource conservation and climate protection as well as economic and business qualifications).

By 2027: "Creating structures" in the medium term

Industry alliance for circular business models.

1. The industry is responsible for the further and new development and scaling of circular business models. However, new types of business models such as leasing or sharing partly require new ownership structures (such as the battery), which need to be negotiated transparently in dialogue with all actors involved and whose effects on, for example, value allocation and liability need to be clarified. By negotiating concrete requirements and guidelines or forms of handling for long-term cooperation between the actors, the incentive for this should be generated for all necessary actors.

Transparency:

2. increase investment in collaborative commercialisation and scaling of technologies and tools to enable transparency of material flows. Promote the adoption and use of digital technologies (e.g. product passports, machine learning algorithms or IIoT) that enable traceability of products, components and materials along the value cycle.

Reuse and recycling infrastructure:

3. EU-wide coordinated development of a Europe-wide reuse and recycling infrastructure; scaling of capacities in Germany and EU-wide.
4. support the demonstration and dissemination of digital technologies (for example artificial intelligence) in the recovery sector to improve material identification and sorting as a basis for high quality circular management including recycling.

Technical development and research:

5. Increase investment in collaborative development of necessary technologies for the Circular Economy (for example collection, sorting and recycling technologies). This should be done taking into account recognised standards (in particular the EU Taxonomy for Sustainable Investment) and other Circular Economy specific recommendations.

By 2030: Achieving a “breakthrough” in the long term

Industrial alliance for circular business models:

1. Economic actors, especially manufacturers, should review whether and how they can shift to planning and making business decisions taking into account systemic resource and energy efficiency across the entire value chain. This should be based on scientific evidence and be done in coordination with the public sector.

Conclusion

A successful transition to a Circular Economy requires a paradigm shift in and close collaboration between business, governments, science and society. This requires an understanding of comprehensive system transformations, or the 'great transformation'.

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recyclability of packaging

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material expertise

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communication

Do's and Dont's on pack or off pack to make your commitment stand out positively

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	Training & Packaging conception	 		Training & Workshop	 
	Worldwide Packaging concept			2 x Material Research & Consulting	  
	Worldwide Packaging concept	 		Training , Workshop & Consulting	  
	Worldwide Packaging concept			Consulting	
	Training & Workshop	 		1 x Material Research	
	Worldwide Packaging concept			Consulting & Workshop	 
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