



**circularity for
apparel and footwear**

Better design for greater circularity



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Vision of the Policy Hub for Circular Economy in the Apparel and Footwear Industry on how to include circular economy principles at the design stage of product development

Designing for better circularity can have important positive knock-on effects at each stage of a product's development and lifecycle. Addressing the quality and duration of service and determining the chemical input, materials and production processes can deliver great benefits, such as the reduction of natural resource use, carbon emissions and diverting waste from landfills.

Designing for greater circularity means notably designing to reduce waste – i.e., prioritising the prevention of waste, in line with the EU's waste hierarchy, and reducing waste at every stage of a product's development and lifecycle. As a first step in a broader circular value chain, circular design can expand a product's lifecycle by enabling better material sourcing and tailored material choice, facilitating product care and repair whilst creating greater opportunities for rewear, reuse and recycling. The design phase determines a product's performance, compliance and safety aspects and has an important impact on the product's duration of services.

The textiles and footwear industry represents a huge variety of players offering many different products, which are designed for very different purposes and with fundamentally different attributes. There are multiple ways in which this highly diversified sector can reduce waste, through initiatives to increase duration of service, cyclability, reparability and sustainable production.

For these reasons, incentivising innovation at the design stage and rewarding all contributions can have a greatly positive impact on the EU's waste reduction ambitions, ensuring garments are designed with their full lifecycle in mind. Working with all actors across the system at this early stage can help develop common standards or guidelines, to better refine and scale what works.



The apparel and footwear industry has already been working on many different solutions to design out waste from their production pipeline, which have been found to reduce by roughly 10% the climate impact of a typical garment life cycle (Roos et al. 2019). Going forward, the industry aims to work closely with policymakers to ensure that these initiatives become common practice and the whole sector shifts towards more circular business models.

DESIGN FOR MORE SUSTAINABLE PRODUCTION

The design phase is where key decisions on the environmental footprint of production processes are made, such as chemical content, water use and energy intensity. Designing for more sustainable production notably enables:

- Reducing waste by optimising product design and leveraging new production technologies.
- Making use of by-products from the production process, such as material scraps.
- Better traceability of chemical content, facilitating the treatment of the garment for second life.
- Reducing energy and water consumption and minimising the discharge of chemicals and effluents.

DESIGN FOR DURATION OF SERVICE

Design for duration of service means creating products that will last longer, taking into account the end purpose of the garment or footwear. This enables new business models as the products become waste at a much later stage. For instance:

- The advent of rental models and second-hand use, as the product stays longer on the market.
- The creation of high-performance equipment which consumers can keep for longer.

Many companies are leading the way in designing out waste. We offer below several concrete case studies.

MORE SUSTAINABLE PRODUCTION

Focus: Better traceability of chemical content

The H&M Group and IKEA are collaborating on a large-scale study since May 2018, reviewing chemical content in post-consumer textile recycling. The study aims to increase knowledge of chemical content of collected pre-owned textiles to ensure the safe reuse of materials in the circular system. This should enable increased utilisation of recycled materials in products.

BETTER DURATION OF SERVICE

The North Face in 2018 launched its “The North Face Renewed” programme, offering a collection of refurbished products for consumers. By refurbishing returned, defective or damaged apparel to meet brand quality and performance standards. ‘The North Face Renewed’ is evolving a circular model where clothing can be repaired, resold, and reused.

DESIGN FOR REPAIRABILITY

Design for repairability means designing long-lasting components that can be easily separated or replaced, making it easier for a product to be repaired, reused or given a second life. This enables:

- A longer life for the individual materials and components that make up a garment.
- A tailored approach, combining both recyclable and durable materials.

DESIGN FOR CYCLABILITY

Design for cyclability means creating products that can be deconstructed and using materials that can be recycled or are industrially compostable at their end-of-life – with no risk emanating from their chemical inputs and a low carbon footprint. This can be achieved through further research and the development of new materials, where current ones do not provide the desired functionality and cyclability. Better cyclability supports:

- A circular loop, where materials continue to be recycled and re-used at their end-of-life, optimising resources and minimising waste.
- Alternatively, a better biological cycle, where materials become part of nature at their end-of-life (use of regenerative materials).
- The advent of a market for secondary raw materials.

BETTER REPAIRABILITY

COS's Repurposed Cotton Project aims to repurpose cut-offs through design. To avoid high-quality cotton going to waste in the COS supply chain, the Repurposed Cotton Project ensures that cut-offs are now collected, shredded, compacted, spun, knitted, dyed and constructed into sweatshirts. The project could save up to 1.5 tonnes of cotton cuttings from going to waste every year. (See p.36 of [H&M's 2018 Sustainability Report](#))

BETTER CYCLABILITY

C&A's [Cradle to Cradle Certified™](#) t-shirts & jeans are designed to be recycled, with their next life in mind. They are produced in consideration of the environment, without creating excess waste, using only safe chemicals and dyes, and in a socially responsible way. C&A publicly shares a set of guidelines for its C2C products to help other companies determine how to change their own practices and make environmentally and socially responsible fashion the norm.

DESIGN FOR HOLISTIC IMPACT

Design for holistic impact means creating products with their full lifecycle in mind, seeking to minimise waste at each stage along the way. This can help:

- Select materials which last longer and have a lower environmental footprint.
- Craft products with their end-of-life in mind.
- Create new business models, e.g. where products are refurbished or sold second-hand.

HOLISTIC DESIGN

Based on 10 key principles, [NIKE's Circular Design Workbook](#) takes a holistic approach to help brands create products that last longer and are designed with the end in mind. As a starting point, from selecting low-impact materials to creating new business models, the Design Workbook offers a set of key elements for brands to reconsider the process of craft and design.

WHAT WE HAVE ACHIEVED SO FAR

The concept of designing out waste is not new to the apparel and footwear industry. In fact, a large number of industry-led initiatives have been adopted by companies in recent years:

- [The Higg Index](#) is a suite of tools developed by companies of all sizes to measure and score a company or product's sustainability performance. The Higg Index Product Tools, for example, will enable designers and developers to make better choices at every stage of a product's development by predicting the environmental impact of a product.
- Other industry-wide initiatives, such as the [Global Fashion Agenda's circular design toolbox](#) or [Circular Fashion System Commitment](#), the Ellen McArthur Foundation's [Jeans ReDesign Guidelines](#), the Connect Fashion initiative's [CircularID](#), the Levi Strauss & Co. [Collaboratory](#) or the [ZDHC](#) on chemical inputs enable companies to collaborate on improving the environmental footprint of their products from the design stage.
- Company initiatives also seek to support and scale design innovations, such as [Fashion for Good](#), a global initiative that aims to transform the fashion industry from the linear 'take-make-waste' model to a circular approach that is restorative and regenerative by design, or the H&M Foundation's [Global Change award](#).
- Finally, several company initiatives seek to change the approach to design already within university programmes, such as [Kering](#) and [LVMH](#), which have independent partnerships with design schools.

OUR POLICY ASKS

The industry has made great strides already in adopting more circular design principles. Mobilising the entire sector through training, education and information exchange will be key to make these solutions deliver tangible results. Policy can support industry efforts by:

- **Recognising, supporting and amplifying**, through incentives and tax discounts, the different contributions to minimising waste (e.g. duration of service, cyclability or reparability), as each brings different but clearly tangible benefits - e.g. In Sweden, the VAT on repair was reduced in 2017 from 25% to 12%.
- **Enabling** design innovation according to product type, by avoiding prescriptive design requirements which could hamper the development of these varied waste minimising solutions – all solutions should be supported equally, with the overall impact on waste being the key consideration.
- **Stimulating** the market by funding innovation in developing scalable solutions for recycled/ secondary raw materials.
- **Supporting** educational partnerships and adaptable, company-specific training modules for designers.
- **Clarifying** what circularity means and entails, specifically for design, and providing industry-wide definitions and guidelines around circularity which take into consideration existing know-how and best practices.

About the Policy Hub

The Policy Hub is an initiative launched in May 2019 by the Sustainable Apparel Coalition, Federation of the European Sporting Goods Industry, Global Fashion Agenda and their members to develop and promote a unified European policy framework that accelerates the transition to a circular system for the apparel and footwear industry, incentivises environmental performance at all stages of products' lifecycle and stimulates innovation and new business models.

The Policy Hub seeks to foster cross-stakeholder collaboration within apparel and footwear's global value chain and open dialogue with policymakers to jointly drive forward a circular economy agenda that generates new and sustainable competitive advantages for Europe and brings benefits to society at large and to the planet.

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