CIRCULAR *DESIGN* TOOLBOX

2020 CIRCULAR FASHION SYSTEM COMMITMENT

IMPRINT

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ABOUT GLOBAL FASHION AGENDA
Global Fashion Agenda is a leadership forum on sustainability in fashion. Anchored around the world's leading business event on sustainability in fashion, Copenhagen Fashion Summit, Global Fashion Agenda advances a year-round mission to mobilise the global fashion system to change the way we produce, market and consume fashion, for a world beyond next season. A non-profit initiative, Global Fashion Agenda collaborates with a group of Strategic Partners, including Kering, H&M, Target, BESTSELLER, Li & Fung and Sustainable Apparel Coalition on setting a common agenda for focused industry efforts on sustainability in fashion.

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INTRODUCTION

WHAT IS A CIRCULAR FASHION SYSTEM

Today's linear "take, make, dispose" economic model is reaching its limits, and natural resources are becoming increasingly scarce, threatening the growth of the fashion industry.

A circular system restores and regenerates materials, in addition to providing opportunities to reduce environmental pressures and ease demand on natural resources while securing future supply and capturing the value of a product to the greatest extent possible.

The public is becoming increasingly aware of the environmental impacts of the fashion industry. Consumers expect the industry to address issues related to production, such as extensive water usage, toxic chemicals and garments accumulating in landfills. Implementing circularity offers an opportunity to evaluate and improve current business models as much as it provides a unique opportunity to create a close relationship with consumers.

An essential part of creating a circular fashion system is to set up collection systems, integrate circular design and consider how to manage end-of-use of garments. This can happen through practices that extend usage, for example resale, or through recycling worn-out garments and incorporating recycled post-consumer fibres into the production of new garments.

"It is essential that we take action on circularity today, even though we don't yet have all the solutions for creating a circular fashion system. It's only through testing and trying that we will find them."

- MORTEN LEHMANN
Chief sustainability officer, Global Fashion Agenda

UNITING STAKEHOLDERS FROM THE ENTIRE FASHION INDUSTRY

At Copenhagen Fashion Summit 2017, Global Fashion Agenda called on fashion brands and retailers to sign a commitment to accelerate the transition to a circular fashion system. As of June 2018, 94 companies and corporations had signed the 2020 Circular Fashion System Commitment (henceforth 2020 Commitment), representing 12,5% of the global fashion market. The 2020 Commitment contains four action points for the signatories' targets:

Action point 1: Implementing design strategies for cyclability
Action point 2: Increasing the volume of used garments and footwear collected
Action point 3: Increasing the volume of used garments and footwear resold
Action point 4: Increasing the share of garments and footwear made from recycled post-consumer textile fibres

In the first year of the 2020 Commitment, Global Fashion Agenda focused on industry-wide collaboration and knowledge sharing as the pillars of future progress. As a result, four toolboxes have been developed based on each action point.

The aim of the toolboxes is to provide key insights, lessons learned and best practices from brands, organisations, companies and researchers to encourage and activate fashion brands to close the loop. The focus is on finding ways to loop products back into the fashion system by redefining the life cycle of garments. The toolboxes point out external resources and guides that can provide additional insights and useful tips. The toolboxes represent a starting point for fashion brands and retailers looking to explore circularity within their company, while informing and inspiring key departments within the company – from management and design to marketing. Moreover, they can also serve as a source of further inspiration for those already taking action.

The four toolboxes are aligned with the action points in the 2020 Commitment. Although they are presented separately, they are meant to be used continuously and simultaneously as all aspects of a circular strategy go hand in hand, just as aligning collection, design and the management of end of use is important.

CIRCULAR DESIGN TOOLBOX

This toolbox is designed to support fashion brands and retailers who would like to explore circular design within their company. It highlights the role design plays in creating a circular fashion system and is aimed to redefine the life cycle of garments by looping them continuously back into the fashion system.

GETTING INFORMED

THE ROLE OF DESIGN IN A CIRCULAR FASHION SYSTEM

Circular design is an inevitable step in creating a circular fashion system that prolongs the lifetime of products through reutilisation and the recycling of worn out textiles. Using various approaches, circular design offers opportunities for better utilisation of resources and materials, enabling companies to rethink products, processes and business models.

KEY LEARNINGS

- In a completely circular system, waste is obsolete because products and materials are looped indefinitely in technical cycles or biological cycles
- Circular design requires rethinking the way products are created and produced, but also rethinking the system they are part of
- Circular design is an opportunity to diversify from the traditional linear production model

CIRCULAR ECONOMY SYSTEM DIAGRAM

A popular understanding of circular economy is that the system contains a technosphere and a biosphere, with accompanying technical and biological cycles, through which products and materials can loop back. The Ellen MacArthur Foundation's **Circular Economy System Diagram** is a useful framework for circular design and is described on their website.

SYSTEM THINKING

Circular design requires rethinking the way products are produced, but also the system that they are a part of. The interdependency between products and systems represents a challenge for circular design. For example, designing for recyclability is currently difficult because a system has not yet been developed to recycle products on a commercial scale. On the other hand, there is a need to create industry-wide demand for recycled fibres to get relevant stakeholders involved in creating the system. As a result, it might be necessary to determine what is currently possible or to consider what types of system changes are required to accomplish your circular design ideas.

BUSINESS MODELS

Within circular economy, the traditional linear production model is challenged, and new business models are appearing that focus to a higher degree on service system thinking. This means that rental replaces ownership and offering services replaces selling products. An established business model does not change overnight, but circular business models can serve as inspiration to support your new circular design practices.

SUSTAINABLE AND CIRCULAR DESIGN

The purpose of sustainable design is to minimise the negative environmental and social impacts of a product throughout its value chain. Circular design focuses on prolonging the life of a product, and looping materials back into the fashion system. Although the approaches differ, sustainable design principles should still be applied in circular design.

"A circular economy is one that is restorative and regenerative by design."

- ELLEN MACARTHUR FOUNDATION

GETTING INFORMED

UNDERSTANDING CIRCULAR DESIGN

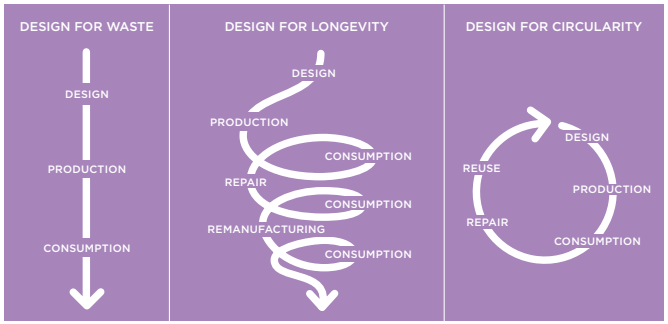
Designers play a vital role in determining the cyclability of a product. If circularity is not integrated into the early stages of the design process, it is difficult for garments to be circulated back into the system. That's why it's time to empower designers and product developers to create products using materials and techniques that facilitate circularity.

KEY LEARNINGS

- Circular design covers the durability, longevity, reparability, disassembly and recyclability of a product
- The aim of circular design is to prolong the life cycle of a product and to loop existing materials continuously back into the fashion system

CIRCULAR DESIGN USING VARIOUS APPROACHES

Circular design can take many forms, depending on the purpose of the product. When designing for longevity, durability and reparability, the aim is to extend the use phase of a garment by one or more owners. When designing for circularity, disassembly, recyclability or biodegradability, the aim is to ensure that products and materials are looped back into the system and used in a regenerative process.



CONSIDER THE INTENDED USE

The design approach for a product will depend on its specific function. A product's intended use should guide its longevity and circularity. Products designed for longevity require, for example, taking the durability of the material chosen into consideration. Whereas biodegradability might be prioritised for garments that are intended to have a short lifespan.

CHOICE OF MATERIALS

The choice of materials significantly influences the environmental impact of your products.[1] Choosing materials is also an essential part of creating circular products. Monofibres, for instance simplify the recycling process, while wool has high durability. Use the **Smart Material Choices worksheet** to learn more.

DESIGN PRACTICES THAT CHALLENGE CIRCULARITY

Both large and small fashion companies have gained an awareness of circular design, but current design practices continue to challenge the creation of a circular fashion system in various ways:

- Designs that are not made to be repaired
- Sourcing fabrics that are not fit for circularity or fabrics with mixed fibres that are not recyclable
- Designs that are difficult to disassemble and recycle
- Lack of traceability of materials

INSPIRATIONAL CASES

LEARNING FROM OTHERS IN THE INDUSTRY

BIODEGRADABLE YARN MADE OUT OF KELP

AlgiKnit creates clothing made out of kelp that is combined with other renewable biopolymers. In addition to being biodegradable, the resulting yarn possesses many beneficial properties, such as strength, resilience and elasticity. **Read more**.

THE NEED TO TREAD LIGHTLY

Proef designs LOPER shoes, which can be disassembled to facilitate the reuse phase. The shoes are made without glue and use only three different types of materials. **Read more**.

SPORTSWEAR THAT MAKES YOUR GARDEN GROW

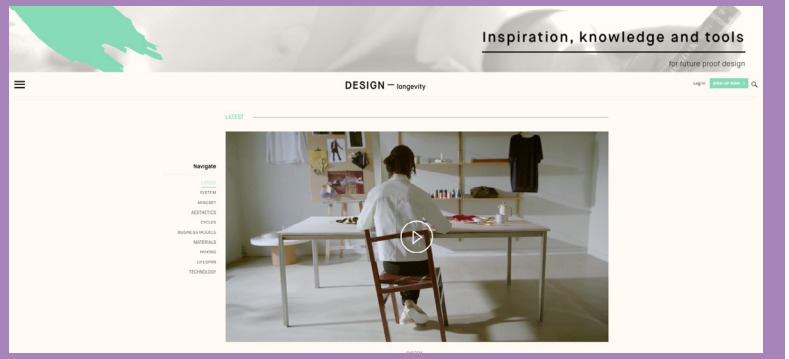
Swedish sportswear brand Houdini creates garments that are actually compostable and can be used to fertilise the earth for the growth of new vegetation. **Read more**.

C2C GOLD-LEVEL CERTIFIED DENIM

Denim brand G-Star Raw developed the first ever Cradle to Cradle (C2C) Gold-level certified denim. The capsule collection showcased a series of naturally dyed jeans with the dye deriving from plant waste.
Read more.

SUBSCRIBE TO INSPIRING RESOURCES: DESIGN FOR LONGEVITY PLATFORM

The Design for Longevity platform, available free of charge to users, is part of a project funded by EU Life and brought to you by Global Fashion Agenda, with support from C&A Foundation. By highlighting the most relevant inspiration, knowledge and tools, the platform provides designers with a catalogue of ideas to help you reach your full potential to ensure a future-proof business and design process. It seeks to break down the complex issues of design for longevity and circular strategies into palatable, bite-size pieces. For more information visit **designforlongevity.com**.



STRATEGY

WORKING WITH CIRCULAR DESIGN

Circular design is still a rather new concept within the wider fashion industry and will require new skills, tools and forms of collaboration to become an integral part of your company and the broader industry.

KEY LEARNINGS

- There is a need to increase and share knowledge about circular design practices amongst designers
- Circular design is an essential component of a long-term circular business strategy

ALIGNING CIRCULAR DESIGN WITH YOUR COMPANY AND PRODUCT TYPES

Circular design encompasses various approaches, which is why it should be adapted in a way that makes sense to you in terms of brand identity and products offered.

GETTING STARTED

Several companies, such as Houdini, EILEEN FISHER Inc. and Proef, have already embraced circular design, yet many companies are just getting started. Questions to explore before getting started:

- How can we rethink the life cycle of our products?
- How can we prolong the lives of our garments?
- How can we make our designs easier to repair and recycle?
- How can we design for a closed loop?
- How can we engage our customers?
- How can circular design fit into our company's business strategy?

Once you have compiled a variety of circular design ideas, identify what approach is most suitable for your company. Questions to explore:

- What resources does the approach require?
- What technology does the design require?
- What knowledge do you need?
- How long will it take to put the changes into place?
- What are the associated costs?
- What external resources do you need?

THE *CEO AGENDA*'S RECOMMENDATIONS FOR A CLOSED-LOOP FASHION SYSTEM

The CEO Agenda encourages fashion industry leaders to train their design and product development teams to create products that are made for durability, disassembly and recycling, and to increase the share of recycled fibres in their products. Retailers should also increase the collection of used garments.

Frontrunners should collaborate with their peers, industry organisations and governments to develop better systems for the widespread collection of used garments, and invest in the development of innovative technologies that will allow them to turn textile waste into high quality fibres.

STRATEGY

CIRCULAR DESIGN APPROACHES

The numerous different and overlapping approaches to circular design can be combined. How you choose to work with circular design should be reflected in the broader context of your company, such as your production, business model, brand identity and vision. Selecting the most suitable method will depend on the type of product. For example, repairability can be a priority for jeans, while recycling or biodegradability might be more appropriate for socks.

FACTORS INFLUENCING YOUR APPROACH TO CIRCULAR DESIGN

- Brand identity
- Product type, e.g. quality or materials used most
- Existing design practices
- Resources within your design team and the capabilities of internal departments
- Involvement in other circular practices, such garment collection or recycling

"Nudie Jeans did not start with the idea of designing for reparability, but it became a natural step to introduce our free repair service. Denim is also a rewarding fabric to work with when it comes to repairs as it is fairly easy to learn the repair skills, and visible repairs are a beautiful detail instead of a flaw."

- ELIINA BRINKBERG
Environmental manager, Nudie Jeans

FIVE APPROACHES TO CIRCULAR DESIGN

APPROACH	*DESIGN FOR LONGEVITY*		*DESIGN FOR CIRCULARITY*		
	DESIGN FOR DURABILITY	**DESIGN FOR REPAIRABILITY**	**DESIGN FOR DISASSEMBLY**	**DESIGN FOR FIBRE RECYCLING**	**DESIGN FOR BIODEGRADABILITY**
DESCRIPTION	Involves extending the life of a product by prolonging its usage. In other words, durability of a product is measured by how long the product provides a useful and meaningful service to the consumer	Entails considering which elements will most likely need to be repaired or changed. These are usually buttons, holes or linings. Make sure that you consider repair kits or services when designing for reparability	Requires components that can be easily separated, making it easier for a product to be reused or recycled, prolonging the life of its materials	Involves taking current material streams into account. Can be complex and requires that all product materials, including chemicals, are carefully considered	Means that products only include materials that decompose naturally and that can be returned to nature through biological cycles after use
SUITABLE IF YOU	· Have high quality products · Offer timeless styles · Design products with high brand value	· Have high quality products · Have a few simple products with only a few components	· Have a few simple products with only a few components · Aim to reuse parts of previous products in new products · Have a garment collection scheme	· Design in mono-material · Mainly have denim products · Have products of varying quality · Have a garment collection	· Offer products that are not suitable for second-use, such as underwear · Focus on reducing waste accumulation
EXAMPLE	Tom Cridland	Nudie Jeans	Proef	HNST	Houdini

STRATEGY

INTERNAL INVOLVEMENT

For circular design strategies to be successful, strong communication channels between relevant departments is essential. It is important to empower and inspire the teams as well as to increase knowledge sharing across internal departments. Externally, establishing a close relationship with suppliers is of high relevance. It can be challenging for them to meet sustainability and circularity requirements if they do not possess the necessary knowledge.

INVOLVING INTERNAL DEPARTMENTS

Consider involving the following departments:

Design and product development to develop circular products using two key players

Marketing and communication to communicate professionally and adequately about new products

Retail to create extra value around a product during sales

CSR and sustainability to determine the social and environmental impacts of new materials or design practices

Sourcing to ensure that you can obtain the necessary materials for your designs

Finance to determine the financial viability of new materials or design initiatives

CASE STUDY — ASOS

ASOS, a signatory of the 2020 Commitment, is determined to enhance sustainability and circularity in its design practices. To do so, it has partnered up with the London College of Fashion to pilot a training programme on circular fashion that covers the latest techniques and best practices in the field. As part of launching the pilot, 15 members of the ASOS design team will participate in the programme. The resulting learnings from the pilot will be used to refine the programme for the rest of the design team.[2]

GETTING TOP MANAGEMENT ON BOARD

To demonstrate why design for circularity is important for top management, showcase its strategic importance by highlighting that:

- Circular design is a great starting point to commit to circular economy
- Circular design is one way to reduce dependency on scarce resource[3]
- Decisions in the design phase can determine a product's environmental and social performance[4]
- Investing in circular design can open up new business opportunities and add strategic brand value

"You need a clear vision and direction to know what to focus on and to make sure the company knows where to go. Since the start we have decided not to have a separate sustainability department, but instead make sure sustainability is integrated as a part of everyone's work and processes. By doing so sustainability becomes a natural part of the core business and decisions."

- ELIN LARSSON
Sustainability director, Filippa K

STRATEGY

MANAGING COSTS AND LOGISTICS

When implementing circular design, it is important to consider the related costs and logistics associated with setting up a circular design initiative, especially in terms of training your design and production team.

COSTS RELATED TO CIRCULAR DESIGN

Changing your design practices involves costs related to trainings, research, development and sourcing new materials, which is why initial investments for implementing circular design are vital.

CIRCULAR TRAINING

The first step in implementing circular design in your production is to train designers, for example through workshops, by establishing partnerships, hiring external experts or by visiting others who work with circular design, all of which may entail extra costs.

RESEARCH AND DEVELOPMENT

Because circular design is a new concept, you will need to explore what suits your company and your products best. Invest in research and development or follow the latest advancements to keep track of new technologies and materials.

SUPPLY OF NEW MATERIALS

Depending on which approach you take to design for circularity, you might need to source new materials that are either more durable, recyclable or biodegradable. These sourcing practices might entail higher costs than your current purchasing of materials. When you have a clear overview of extra costs, consider how much of the additional costs should be reflected in the price of the product.

LOGISTICS

Logistics are mainly related to new purchasing decisions regarding materials. If you are establishing a new relationship with a supplier, the sourcing logistics must be taken into consideration.

If you are *designing for repair services*, it is important to think through the surrounding logistics, which are influenced by whether you choose to repair in-house or to hire an external partner.

If you are *designing for disassembly*, examine how products find their way back in the material stream for each part of the product.

If you are *designing for recyclability* think about how the materials will flow back into your own forward value chain, or a how a third party will handle these products.

If you are *designing for biodegradability*, take into consideration what opportunities are available for customers to be responsible for this aspect and what that involves logistically. Many customers are unable to compost products at home, which is why designing for biodegradability only has value if products are returned to the right place.

STRATEGY

SETTING TARGETS

Circular design targets are an important aspect of signalling your new initiatives to internal and external stakeholders. Targets will also improve the credibility of the initiatives, making it easier to report on progress.

TARGET SETTING

Early-stage targets should focus on activities that lay the foundations for future engagement, such as developing design strategies or training staff in circular design thinking. This is an important part of integrating circularity into an overall business strategy. Most importantly, targets should provide clarity and direction, and be measurable.

Targets can focus on tangible objectives:

- Setting up a circular design brief
- Creating a preferred materials list
- Implementing care instructions for customers
- Number of employees trained in circular design principles
- Percentage of garments being designed for durability, reparability, disassembly, recyclability and biodegradability
- Decrease in usage of, for example chemicals, coatings and glues

For more assistance with setting targets, watch Global Fashion Agenda's **"Setting Targets" webinar**. Examples of targets for circular design can also be viewed on Global Fashion Agenda's **website**.

CIRCULAR DESIGN TARGETS FOR 2020 COMMITMENT

As part of the 2020 Commitment, the circular design targets set mainly focus on training in circular design and integrating circularity into design briefs.

TRAINING IN CIRCULAR DESIGN

GAP Inc. will train its cross-functional product teams on circular design techniques and best practices by 2020

NIKE will work to implement sustainability training, including circular design, for all product creation roles in footwear and apparel

INTEGRATING CIRCULARITY IN DESIGN BRIEFS

Ganni has committed to include circular design principles in all of its product briefs by 2020

HUGO BOSS will apply circular design principles in all of its design briefs, starting with the spring/summer 2020 collection

"Our experiences have shown that circular design targets need to be realistic, based on the technological capabilities of our industry and relevant to the consumer. Our biodegradable shoes, for example, did not sell well because consumers were sceptical about the benefit of a biodegradable shoe."

- STEFAN SEIDEL
Head of corporate sustainability, Puma

"The scope of design must change. We can't continue creating garments that simply look and feel good, we need to create smart solutions fit for a new fashion system, where resources can be utilised over and over again. This means that our roles as designers will shift hugely, which requires new skills and learning. If we recognise this and support new mindsets and design practices, we can truly take the lead in a systematic change for the fashion industry."

- TOBIAS HARBOE
Project manager for Design for Longevity, Global Fashion Agenda

IMPLEMENTATION

SOURCING CIRCULAR MATERIALS

The choice of materials is often driven by the look, feel and price, but when it comes to circular design, durability, reparability, disassembly, recyclability and biodegradability should also be key considerations, depending on the chosen approach. Finding suitable tools and resources to help you identify the right materials for the intended use is essential.

KEY LEARNINGS

- Choose materials carefully, select what is fit for purpose
- Develop a list of preferred materials that aligns with your strategy and brand
- Use material assessment tools to guide your sourcing decisions
- Depending on the circular design approach you choose, consider the different aspects of a product's life cycle and the corresponding fibre for optimal design circularity

SUSTAINABLE AND CIRCULAR MATERIALS

Circular materials can continuously be looped back into the fashion system. These materials may not necessarily be classified as sustainable, but their fibre composition and construction make them durable or recyclable. Materials that are traditionally classified as sustainable may not be circular, however. For instance, certain fabrics made from mixed fibres cannot be recycled with current technology.

When sourcing materials, consider:

- Where you can tap into waste streams (e.g. products you have taken back)
- Durable fibres
- Biodegradable fibres
- Recyclable fibres
- Limiting the amount of finishes and coatings to ease cyclability
- Avoiding hazardous chemicals and dyes to allow safe looping of materials
- The impact of the material throughout its entire life cycle, including any negative externalities that might outweigh certain circular features (e.g. microfibres)

DEVELOP A LIST OF PREFERRED MATERIALS

It can be a good idea to develop a list of materials that best suits your products and that aligns with your overall circularity strategy. This will give the design and product development teams a clear guide for material choices. Setting up or getting access to a fabric library can help clarify the social and environmental impacts of each material.[5]

COLLABORATE WITH SUPPLIERS

Tell your fabric suppliers specifically what you are looking for and work together to find fabrics and technological solutions that enable cyclability of your products.[6]

IMPLEMENTATION

TOOLS FOR IMPLEMENTING CIRCULAR DESIGN

ASSESSMENT TOOL: HIGG INDEX

The Higg Index is the global apparel, footwear and home textile industry standard for measuring and improving the sustainability performance of a product or company. It comprises several easy-to-access online tools designed for members from every segment of the industry.

The Higg Material Sustainability Index is a cradle-to-gate material impact assessment tool used to identify and compare materials and processes with highest/lowest impact. Another useful tool is the Higg Index Design & Development Module, which can be used to score apparel and footwear products early in the design process. **Read more**.

CRADLE TO CRADLE: FASHION POSITIVE MATERIALS

The Fashion Positive Materials Collection is a portfolio of key Cradle to Cradle Certified™ building block materials that has the potential to increase the positive impact of garments. The materials are certified for material health, reutilisation, renewable energy, water stewardship and social fairness, creating a collection of urgently needed 'positive' materials to design with from the beginning and at scale.

Fashion Positive works to verify circular fashion materials according to the Cradle to Cradle Standard and to provide industry access to these materials. **Read more**.

IMPLEMENTATION

DESIGNING FOR CONTINUOUS LOOPS

The implementation of a circular design process will vary depending on the design approach chosen, such as designing for durability and recyclability. Regardless of the design approach, however, it is important to consider the products' whole lifecycle, including its post-consumer life, to uncover how designing for closed loops can be achieved.

KEY LEARNINGS

- Fibre composition has a significant impact on a product's longevity and cyclability
- Identify all components included in the product, and determine how they loop back into the system
- Clearly label products and include instructions for how products should be handled by the end of use

DESIGN FOR LONGEVITY

Designing for longevity intends to prolong the active lifetime of garments. The aim is creating products that are durable, comfortable and possess a timeless design.[7] Use the following guidelines to help design for longevity:

Design for durability
Designing for durability is key in extending the use phase of garments. Quality and durability are often used interchangeably, but the purpose is to ensure the longevity of the product. When designing for durability consider:

- The quality of fabrics in terms of strength, abrasion resistance and shape resilience
- Quality of trims and linings
- The finishing and product surface in terms of odour, tears and stains
- Product features that are easily affected by wear and tear
- Chemicals used and their impact on fabrics; work closely with manufacturers and suppliers to select dyes that best meet a product's performance requirements
- Correct and precise care instructions
- The emotional durability of the product; Styles that are timeless, multifunctional or that can be upgraded prolong the longevity of the garment

Design for reparability
Product repair is an important part of a circular strategy as it extends a product's life.[8] Even products designed for durability will likely require repairing at some point, and envisioning how they can be repaired early in the design phase can ease the process, prolonging the life of a product without compromising on look or style.

Identify key repair features
Identifying key features early in the design phase that are often affected by normal wear and tear and will likely need repair, allows you to improve the repair process by building reparability into those features. If you already have a garment collection scheme, take note of the most common defects on the returned garments and then avoid those in the design process.

Facilitate the repair process
Ease of disassembly is a key factor in determining reparability. Extending the life of a product can be as simple as removing and replacing a damaged or broken zipper. Pure Waste designs feature zippers that can easily be removed, for example.[9]

Consider the aesthetics
Consider how design elements, fabrics, linings and finishing can be repaired without compromising the aesthetics of a product.

Provide guidance
Be sure to guide consumers using clear information or intuitive processes, as many customers lack the knowledge and skills to repair products. The fewer steps the better.

DESIGNING FOR CIRCULARITY

Instead of letting products end in landfills, designing for circularity explores opportunities to create continuous value at a product's end of use. Designing for circularity requires careful consideration of which components are included and how they can be looped back into the system at the end of use. Textile recycling is a field still under development, setting limitations on design practices. Some guidelines, however, are already available:

Reverse your thinking
Start by reversing your thinking and consider how a product can be reused after its end use. When identifying each component of a product, take into account how each one can be reused or recycled.

Include information
One recycling issue is the lack of transparency in terms of materials used. To increase the recyclability of clothing it is important to create more transparency on material components and composition, especially to speed up the sorting process. New technologies are emerging on the market, such as radio-frequency identification tags and 2D barcodes, making it easier to identify a product's fibres, dyes and style, allowing for better recycling at the product's end of life.[10]

Understand current recycling practices
To enhance the likelihood of garments being recycled, designers can follow current technological developments and design in a way that eases the process and accelerates a circular fashion system.

Design for disassembly
When designing for disassembly, think about how a product can be taken apart without damaging the materials. To employ an intuitive disassembly process, minimise the number of components, as well the need for fastenings and accessories. Also, avoid glues and surface treatments when possible, for example, to make components easy to detach and separate.

Design for fibre recycling
Because today's technology for fibre recycling is still limited, the choices made at the product development stage have a huge impact on the recyclability of fibres. Separating mixed fibres is currently a challenge, which is why companies such as Elsk and Houdini avoid mixing materials and opt for the use of monofibre fabrics. Especially linings and threads can be a challenge. To address this issue Filippa K has started using TENCEL® threads in some garments to make recycling easier.

Design for biodegradability
Another approach is to make garments, accessories, or parts of them biodegradable and thus recyclable. Preventing non-biodegradable fibres, dyes and finishes from entering the ecosystem reduces the risk of harming the environment. For example, C&A was the first global retailer to launch Gold Level Cradle to Cradle Certified™ t-shirts. They are designed with materials that are biological nutrients, which means they are made to be reused and recycled into new products or to be safely composted.[11]

COMMUNICATION

MARKETING CIRCULAR PRODUCTS

The move from a linear to a circular fashion model also requires a shift in consumer behaviour. That's why informing and inspiring them to play an active role is crucial. If they are not properly informed, the probability of looping a product back into the system declines greatly.

KEY LEARNINGS

- Consumers must be clearly informed about the positive impact of circular design and how to take care of their garments
- Transparency is essential to selling an authentic story
- Marketing can be used to inform and engage your customers in your design practices

CUSTOMER ENGAGEMENT

Create an authentic narrative
An authentic narrative around your circular design is important to engage customers and increase loyalty. Information sharing is an important tool to inspire and motivate your customers.

Nudging circular behaviour
While consumers increasingly demand greater transparency, they are also overwhelmed with choices and information at every point of purchase. Consequently, brands have to make the right choice easy and rewarding, for example, by using in-store displays, guides, videos or added services on- and offline. Providing information on how and where a product was made, along with tools and tips on how to care, repair and recycle, is a decisive factor in making this happen. If consumers are not properly informed, the probability of looping a product back into the system declines greatly.

Let customers share their stories
Use the central role of customers in the circular fashion system by letting customers be a part of the story and make them feel more empowered by their purchasing decisions. Patagonia, for example, has a blog that allows customers to share stories on how their garments have been used and even passed on through the generations. This is a great way for them to share how your and their efforts prolong the life of a product.

PRODUCT LABELLING

Providing detailed labelling on a product is key to ensuring its cyclability. Labels encourage durability by providing instructions on how to wash, dry and repair to minimise damage. Furthermore, clear instructions that remain visible on a label until a garment's end of use help ensure recyclability.

EVALUATION

EVALUATING CIRCULAR PRODUCTS AND PROCESSES

Once the product has been launched it is important to take a step back and assess the circular design process. Evaluation is key to seeing how you can improve a product's cyclability, as well as make the process easier next time.

KEY LEARNINGS

- Evaluating your circular design practices should be done continuously by testing your products
- Make sure that your evaluation process provides information on how to improve products and processes within the specific approach you have chosen
- Internal and external feedback is a key source of continuous learning and improvements

REVISIT YOUR TARGETS

Revisiting your original targets to see if you achieved what you set out to do is the very first step in the evaluation. Next to tracking your progress and possible bottlenecks, reporting your achievements is one essential way to keep internal and external stakeholders informed and to be transparent in your sustainability practise. Sustainability reports from other fashion brands and organisations are a great source of inspiration for reporting on your progress.

MAKE YOUR TARGETS TANGIBLE

Even though evaluating your circular design targets might initially raise measurability issues, there are multiple ways to approach the task. Begin the process by looking at concrete numbers:

- How many employees were trained on circularity?
- How much of your collection is being designed for circularity? Which approach was the most or least successful?
- How much was invested in new technologies and what is the outcome?
- How high are your savings on the use of chemicals?

PROCESS FEEDBACK

To improve the product development process, it is important to get feedback from your internal teams and other key stakeholders involved across the value chain. Evaluate whether you had the necessary resources, skills and tools, and whether you engaged relevant stakeholders. Should your internal infrastructure change at all to ease the process? Did you have to make too many compromises on the product's aesthetics or profit margins?

CUSTOMER FEEDBACK

Investing time and money to understand how a product has been received by customers is a valuable tool for evaluating its performance and identifying improvement levers. It can also provide insight into possible flaws that impact the longevity of the product.

"When developing completely new ideas and changes, it is difficult to know how it will work in reality. How will customers perceive it? How well will it integrate with the rest of the business? Logistical challenges we did not foresee etc. Allow yourself to learn as you go along and make adjustments along the way or remove it if not successful."

- ELIN LARSSON
Sustainability director, Filippa K

THE ROAD AHEAD

STEPS TOWARDS CIRCULAR DESIGN

This toolbox demonstrates how design is a key aspect of a circular fashion system. It also showcases the opportunity design represents for you, as a fashion brand, to take an active role in transitioning the industry to a circular fashion system.

INCREASE COMMUNICATION AND COLLABORATION

Collaboration within companies and the fashion industry is essential to create a circular flow of materials and knowledge. New systems and partnerships need to be developed internally and externally for products to be part of a circular system. To enable a circular fashion system, collaboration with multiple stakeholders, including organisations, companies, manufacturers, suppliers, academia and policy enactors is vital.

EDUCATE TEAMS TO THINK CIRCULARLY

Educating design, product development and sourcing teams to think circularly is essential to close the loop. There is a need to share knowledge, best practices, lessons learned, inspiring cases and tools with each other to support this transition.

DEVELOP SYSTEMS

Circular design strategies need to be supported by the development of systems for collecting textiles so that the garments can be reused and recycled and not end up in mixed waste streams, where their circular design elements are lost.

USE TECHNOLOGY TO TRACK MATERIALS

Developing and using technology to tag and track the materials and components of garments is necessary to ease the sorting and recycling of textiles. Information about how a product has been designed and how it can be recycled needs to become readily available to consumers and recyclers, as well as to design teams. This approach will improve the chances of a product becoming a source of recycled materials at the end of use.[12]

"Circular systems for fashion are impossible to create and implement alone. Collaborating with each other is vital, as is developing and trusting aligned leadership on multiple fronts. Working together in this way, we save effort, time and resources. We can do more, faster, when we work together."

- ANNIE GULLINGSRUD
Director, Textile & Apparel Sector, Fashion Positive

ADDITIONAL RESOURCES

CIRCULAR DESIGN GUIDE

The Circular Design Guide, developed by the Ellen MacArthur Foundation in collaboration with IDEO, provides helpful worksheets in the transitioning towards a circular economy. It contains an expansive collection of tools and methods to help you understand, define, make and release circular innovations.

DESIGN FOR LONGEVITY

The Design for Longevity platform, available free of charge for users, is part of a project funded by EU Life and brought to you by Global Fashion Agenda, with support from C&A Foundation. By highlighting the most relevant inspiration, knowledge and tools, the platform provides designers with a catalogue of ideas about the design process. It seeks to break down the complex issues of design for longevity and circular strategies into palatable, bite-size pieces.

FASHION POSITIVE

Fashion Positive has a library containing all its Cradle to Cradle Certified™ materials in one place, making it easier for designers to navigate what fibres to use. Furthermore, Fashion Positive collects tools and resources that give you greater insight into fashion in the circular economy, as well as how to make tangible progress toward certified materials.

MISTRA FUTURE FASHION

Mistra Future Fashion is a cross-disciplinary research programme that aims to deliver insights and solutions to be used by the fashion industry and other stakeholders to significantly improve environmental performance and strengthen global competitiveness. A variety of publications are publicly available on the Mistra Future Fashion website.

SUSTAINABLE APPAREL COALITION

The Sustainable Apparel Coalition developed the Higg Index, a self-assessment tool that helps brands of all sizes in assessing their sustainability activities to provide a holistic overview of their sustainability performance. To measure, track and report changes, the Higg Index is an efficient tool to identify areas where sustainability can be improved. Of particular relevance is the Higg Design & Development Module, or DDM, which helps score apparel and footwear products early in the design process.

WRAP

WRAP Sustainable Clothing Guide, a practical guide developed by WRAP, is useful for understanding how to enhance the durability and quality of garments. It puts forward simple steps, best practices and cases on how to design, produce and sell sustainable clothing that lasts longer and can easily be repaired and reused.

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