RESTSELLER | CIRCULLAR DESIGN CHILD

DESIGN FOR THE FUTURE

A CIRCULAR DESIGN GUIDE

BESTSELLER

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CIRCULAR DESIGN GUIDE

It is our belief that preparing for a circular future will be a central pillar for the fashion industry.

A circular fashion industry is also the clear ambition of the EU. In 2020 and 2021 the EU published the Circular Economy Action Plan, and the EU Commission published their EU Strategy for Sustainable and Circular Textiles. Implementing our Circular Design criteria, will contribute positively to meeting the new legislative requirements.

This guide can assist in the process of optimising resources throughout the entire value chain. For BESTSELLER, this entails considering all decisions made at each stage: Raw Material, Production, Use and Recovery.

The Circular Design Guide is built up around these four stages that each has tangible strategies for product developers to make use of.

Implementing
our Circular Design
Guide will contribute
positively to meeting
new legislative requirements

THE WORLD OF INNOVATION AND CIRCULARITY IS DYNAMIC

Legislation and consumer behaviour will set demands for product design, product quality and transparency.

This will create challenges, and it demands that we as a company pursue new ways – that we dare to make bold decisions and step into unknown territory.

This is the second edition of BESTSELLER's Circular Design Guide - created as part of the ReSuit project*. It has been updated with additional knowledge on product design and new information on how to guide a shift towards circular business models.

*ReSuit project is funded by Innovation Fund Denmark and led by Danish Technological Institute to push the boundaries of design, recycling technology and consumer behaviour. This guide has been produced in collaboration with researchers at Design School Kolding - a partner in the ReSuit project along with BESTSELLER.



DEFINITION

In BESTSELLER, preparing for a circular future is defined as "a systemic shift that brings forward new ways of using and designing clothing.

From the outset, the design should ensure that the product can be part of a circular system. This means that the designer firstly needs to understand the user and define product purpose and lifetime.

Furthermore, products should be made from the approved Fashion FWD materials, be designed to minimise or avoid waste, last longer, be used more, and be recyclable".

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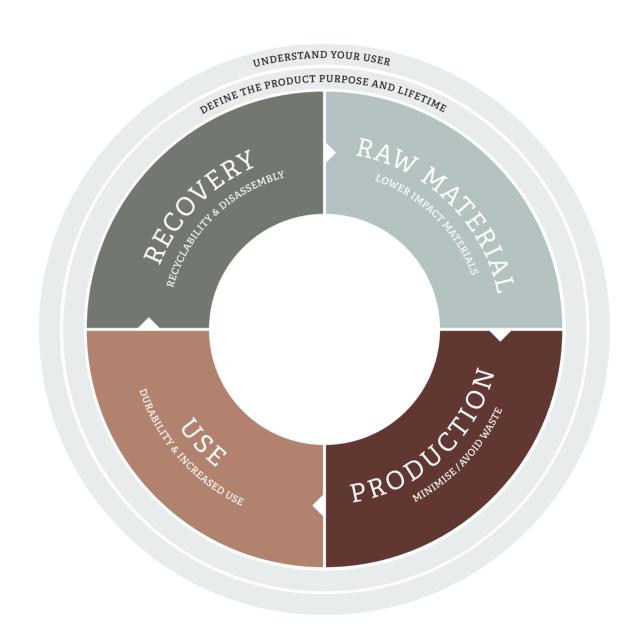
CIRCULAR DESIGN MODEL

A key part of preparing for a circular future is to understand all steps in the design model and ensure coherence.

Before diving into product design, you must understand the product user as well as the lifetime and purpose a product may serve. Only then you must decide on raw

material and how to optimise resources in production, as well as how to design the garment for the intended use and optimal recovery.

All steps are explained in detail throughout the Circular Design Guide.





CIRCULAR BUSINESS MODELS

Going beyond recycling, one can begin to drive other resource flows to untap new revenue streams and business potentials.

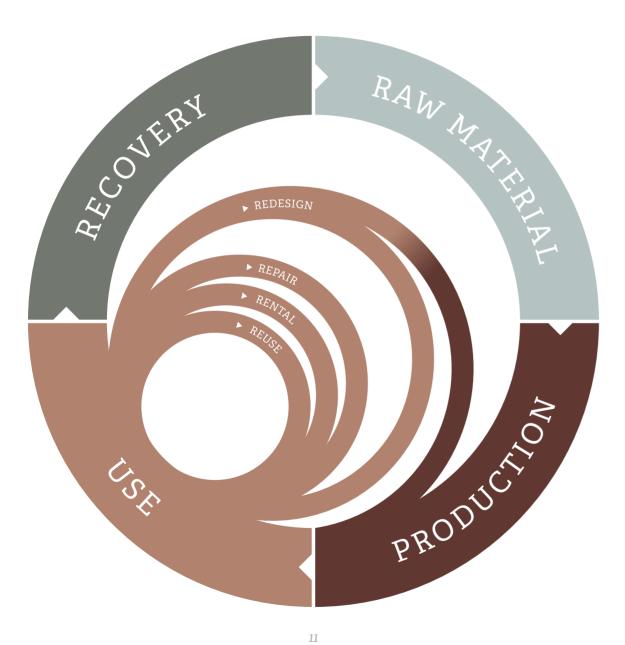
In this Circular Design Guide, we introduce the following approaches that all relate to circular business models:

Reuse, Rental, Repair and Redesign.
Within these, a hierarchy exists which means that some approaches should be preferred over others to maximise the potential use of all resources and decouple ourselves from virgin resources.

A distinction should be made between the actual business model and designing for the business model. While it often will go beyond the responsibility of a product developer to implement circular business models, it will be their responsibility to design for them accordingly.



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Ranked according to preferred Circular Business Model, starting with the most preferred:

01	A service offered online and/or in physical stores where the user pur-
REUSE	chases a product that already has been in use by another user. This can
	include the brand's own products as well as other brands' products.
02	A service offered online and/or in physical stores where the user has
RENTAL	access to a product for a limited amount of time without owning it.
03	A service offered to repair products once broken. This can be done by
REPAIR	the user, the brand, or a third party.
04	A service that can occur in two main ways - the brand works with a
REDESIGN	third party or engage their user in the process.

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BESTSELLER'S CIRCULAR DESIGN CRITERIA

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Based on ambition and starting point, a brand can tap into the level of complexity that is best fit for a given situation.

The current minimum criteria for designing for circularity in BESTSELLER are:

RAW MATERIAL Design with Fashion FWD approved Better or Best Materials.

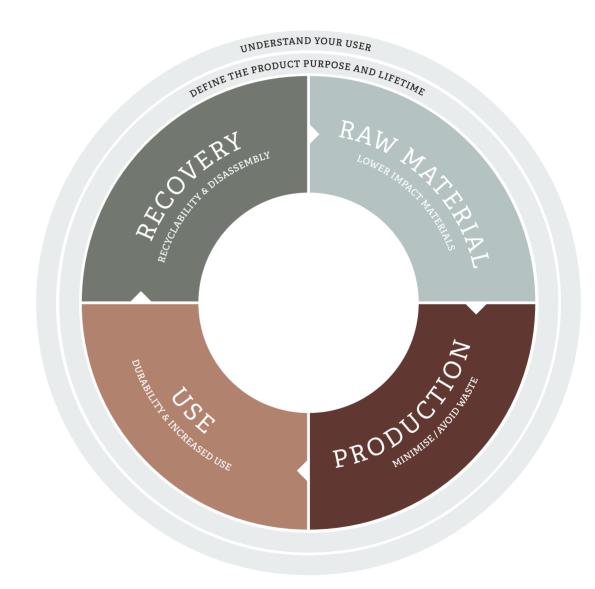
PRODUCTION Always consider how to minimize/avoid waste.

USE Design for Durability – Test results for durability must for now live up to BESTSELLER's minimum requirements.

This might change with legislation.

RECOVERY Monomaterial composition (minimum purity: 98 %).

Understand your user and define product purpose and lifetime are also applicable for the minimum criteria. Our minimum criteria is a moving target. As we become able to measure and supply data on more areas, we expect to expand these criteria. Going beyond minimum criteria is always encouraged. This guide provides concrete guidance on how to extend the lifetime of products and limit impact even further.







CIRCULAR DESIGN PROCESS

Now diving into your circular design toolbox, this section of the Circular Design Guide will take you through all design processes.

We begin the circular design process by getting to 'understand your user' as well as 'define product purpose and lifetime'.

These steps are simultaneously both pretty straightforward and immensely complex.

Most importantly, they are essential enablers in order to make the right decisions related to 'raw materials', 'production', 'use', and 'recovery'.



The most
unsustainable
product is the
one that is not
worn

UNDERSTAND YOUR USER

In a circular design process, it is vital that you more deeply understand your user throughout the design process. This will ensure that the raw materials you choose as well as the function, fit and style of the design is shaped by those that actually wear your products. The aim is to make a product that fulfills the user's needs, so it lasts longer, is used more and is relevant for the market. The most unsustainable product is the one that is not worn.

There are many approaches to understand your user. Start with lighter methods such as looking into your own wardrobe or asking a colleague to wear and test a design and give you feedback. Then move to methods that will give you deeper insights,

such as speaking to someone outside the brand about how they style clothes or reach out directly to your users to learn about e.g. body shapes.

Design School Kolding has developed 10 simple methods to help fashion designers start their journey to understand their user. To learn more visit:

designforplanet.dk/toolbox/user-cards/





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DEFINE PRODUCT PURPOSE & LIFETIME

Considering both product purpose and product lifetime will help you make the best design decisions to increase the use and extend the product's life.



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PRODUCT PURPOSE

When you think about product purpose, ask yourself:

How will the product be used?

When will the product be used?

Will it be used by one or several users?

Will its purpose change?

Does it need to be designed for a specific circular business model like rental or resell?

Product purpose is important to define as it will enable you to design a product with functionalities that underline the purpose.

Take an everyday dress: Here it would make sense to make the skirt-part wide so that it is fit for walking and biking. Consider also sleeve design and raw material. Pockets might be a useful design feature? Always consider, how your design can create a more useful product.



PRODUCT LIFETIME

When you think about product lifetime, ask yourself:

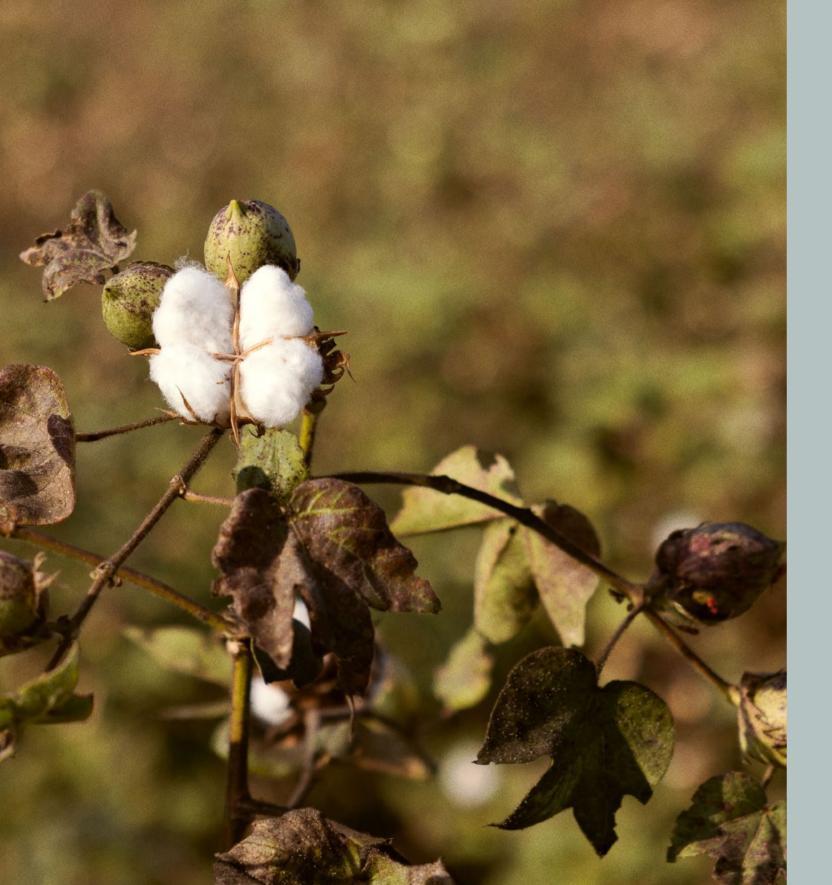
How long will the product be used?

How often will the product be used?

Will circular business models effect the product lifetime and if so, how?

Defining the product lifetime will help you make the right design decisions in terms of raw material, fabric, and garment construction. Take the everyday dress example: We might expect it to be used once a week for at least five years. This means that we must design the dress to withstand wash and wear for this defined lifetime. You might use a more durable weave, reinforcing seams and colourfastness.

Not all products
can last equally long,
but we should always
aim to design our
products to last as
long as possible



RAW MATERIAL

Raw material production has an environmental impact. Therefore, it is important to choose materials with a lower impact than the conventional.

When designing for circularity always use approved Fashion FWD materials (Better or Best categories).



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OVERVIEW OF MATERIALS

FIBRE	STANDARDS	BETTER	BEST
MMCF			
ELASTANE			
POLYESTER			
HEMP/LINEN			
ANIMAL FIBRE			
ACRYLIC			

Going further RAW MATERIALS

To go a step further than conventional sourcing practises, we suggest looking into the following options:

COLLABORATE

Often raw material innovators require a minimum order quantity which in some cases is too high for a brand. Collaborate with another brand to overcome this barrier and share learnings gained along the way.

INNOVATE

Engage with stakeholders (suppliers,
BESTSELLER Innovation Team, etc.) to be

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PRODUCTION

A lot of energy goes into producing and transforming raw materials into products. Therefore, we need to optimise the way we use resources in production to create the least waste possible or none at all.



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STRATEGY

USE FEWER INPUTS

Ask yourself, without compromising on the aesthetics, whether you can limit the inputs in a design. Is it possible to not use certain trims? Or can a neck label be applied in a smarter way? Is that pocket really adding value?

LAY PLAN AND PATTERN OPTIMISATION

Minimise or eliminate cut-off waste from production by changing the pattern and/or lay plan

In the knitwear category utilising fully fashioning will eliminate cut-off waste

RECIRCULATE PRODUCTION WASTE

Eliminate cutting waste by making sure it is repurposed or recycled

DIGITAL PROCESSES

Make design, sourcing, and sales processes digital – such as using 3D design and digital showrooms – to reduce total resource consumption

Going further PRODUCTION

To go further than conventional production methods and reduce resource use, we suggest diving into designing products for customisation.

CUSTOMISATION

Offering solutions for customisation through engaging the user in the design decisions of the product. This can be done both at factory and store level. The aim is that the user will use the product more and longer. Which design elements can you create that are customisable?

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USE

The purpose of a product is key when selecting the best fitted strategies for durability. All durability strategies aim to extend the product's lifetime or making the product relevant for several users.

This section on durability is divided into physical durability, non-physical durability, and increased use.

Remember that the user's willingness and ability to use a garment depends on the aesthetics, function, physical durability as well as emotional attachment.



PHYSICAL DURABILITY

When making products that are intended to last, the physical durability of a garment is imperative. Here you need to consider all aspects of the product not just the quality of the material but also of the trim and the strengthening of weak areas that are subject to stress.

Testing the fabric and final product is a great way to understand the durability level and enabling you to improve the quality. In addition, if durability fails, the user needs to be informed and able to repair it.

Test the physical durability of your products

STRATEGY

PHYSICAL DURABILITY

Construction: When designing for physical durability fabric and product construction as well as trim should be carefully considered.

Reinforcements: Areas liable to stress such as the crotch, elbows, pockets etc. could be reinforced with extra/studier fabric, sturdier fabric or by stitches/bar tacks.

TEST

Test the durability of thread, fabric, components and/or construction internally, with suppliers or in a laboratory using performance testing machines. Especially for recycled materials it is important to test.

Examples of tests include tear strength, abrasion resistance, pilling, shape resistance and colourfastness. There are also other ways to test a garment by simply getting people to wear and use it.

REPAIR

Repair guidelines: Create repair guidelines to make it easier for the user to repair a garment once broken.

Spare parts: Make sure the user has easy access to spare parts like patches, trim, and yarn.

Design for repairability: Design the garment in a way that enables any future repairs to look like they are part of the design.

Design repairability into the product by making sure breakable parts are replaceable if broken or areas of the garment can be easily fixed.

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NON-PHYSICAL DURABILITY

There are many ways that we can design products that are designed to last. Non-physical durability is one of the most important points when it comes to a user's willingness to use a garment longer and more often.

Make your user want to keep and wear your product for long

STRATEGY

AESTHETIC

Classic/timeless/iconic designs: These need to age with grace and might have neutral colours and simple prints that the user will wear for a long time.

Unique: design something so special that it will be interesting to wear for many years.

EMOTIONAL

Experience and relations: Often emotional durability occurs because the user associates a product with a specific impactful event or was given it as a gift. This can be difficult to design for, but attachment can be created through personalisation.

Customisation: design a style that the user can customise, such as providing additional trims or a dye for the user to update the colour themselves.

Exclusive: Design something with limited production runs to encourage a stronger emotional bond making people want to keep it for longer or resell it.

COMFORT

Good fit: A good fit can help increase a garment's use. Whereas bad fit does the opposite. To design for a better fit you need to understand your user.

EASE OF CARE

Limited wash: Can you use materials that require less washing, such as wool. Consider where your garment would get dirty or soiled? Can you design so these parts can be removed and washed separately? Perhaps designing specific areas differently such as designing for breathability at the armpits.

Care guidelines: Create care guidelines to make it easier for the user to care for a garment making it last longer.

Equipment for care: Make sure the user has easy access to equipment for care. For example, could you sell a fabric shaver with knitted products?



INCREASED USE

Another way to make a product last is to give the user several use options and to make it relevant for as many users as possible. The design for Increased Use strategies demonstrate ways garments can be designed to be adapted and transformed.

Make the user need less clothing in the wardrobes

STRATEGY

VERSATILITY

Modularity: Create a garment which can be combined in new ways or use independently. E.g. divide the garment into smaller parts or modules.

Multifunctionality: A garment that has different functions and can cover different needs.

Reversibility: A garment that can be worn inside out.

Design sets: Create garments that can be styled together and apart. E.g. a shirt and a skirt made from the same fabric to appear as a dress when combined.

Styling (with previous collections): Make sure that new products can be styled with previous ones. This way you may increase brand loyalty whilst helping to reduce consumption.

FIT FOR MANY

Adjustable sizing: Enabling a garment to be adjusted e.g. by adding fastenings, such as drawstrings, buttons, or provide additional seam allowance or materials such as cuff and hem turn ups, to increase garment size.

Genderless: Designing styles that are more inclusive. Consider the style and size.

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How can you design for resell or rental services?

Going further

USE

To extend product lifetimes and increase use further, we suggest that you engage your user in circular business models which require appropriate designs for these new types of uses.

ENGAGE YOUR USER

increase use even more, your brand may offer circular business models.

As a designer consider how these extended resource loops might require slightly different design.

Reuse: to make a product relevant for a resell service you could consider how to design for 1) physical durability for the

product to withstand wear and tear and for 2) increased use to make it relevant for as many users as possible to ensure regular and continued use

Rental: occasion wear is often worn rarely when owned by a user. Consider making occasion wear for a rental service to maximise use. Physical durability and repairability are also important to extend product lifetime.

Redesign: Consider how to incorporate redesign from the beginning. You could also create a list of instructions for the user to redesign the product.

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In a circular economy, recovery can happen through both recyclability and compostability. In BESTSELLER even if we design for compostability, we want to make our products go through various recycling loops first. Therefore, recycling is focus of this recovery section.



RECYCLABILITY

The recovery stage starts when clothing comes to its end-of-use. It is collected, sorted and then sent to recycling processes. Depending on fibre type, colour and other considerations the garment can be either mechanically or chemically recycled. After recycling, the resources return to normal production processes to be transformed into clothing once more.

When we design for recyclability, we want to ensure that our clothing can be turned back into new clothing again.

If this is not possible, it can be recycled into other applications, but in the first instance we should prioritise fibre-to-fibre recovery routes.

Fibre-to-fibre
recovery routes
will ensure that we in
the industry feed back
into our own system

MECHANICAL RECYCLING

This is a physical process to return textiles back into fibres. These fibres can then enter textile production processes again, such as spinning.



CHEMICAL RECYCLING

This is a chemical process that breaks down the textiles further than fibre level to the most basic building blocks. They are subsequently rebuilt to form new fibres and flow back into regular production processes.



STRATEGY

DESIGN FOR THE RECYCLING PROCESS

Mono-materiality: Designing for mono-materiality is a method used to keep the content of the garment to a single type so it can easily enter recycling processes at all levels.

In BESTSELLER this means that a garment should consist of at least 98% monomaterial, preferably 100%. Consider both sewing thread and trims if possible.

Colour: Colour can be determining for recycling processes if it cannot be removed in the process.

DESIGN WITH RECYCLED MATERIALS

A garment made from recycled materials must still be recyclable. Remember to prioritise monomaterials over blends, also when using recycled materials.

WHAT TO CONSIDER WHEN DESIGNING FOR MECHANICAL OR CHEMICAL RECYLING

MONOMATERIAL

SCHANICAL RECYCLING

Keeping garments mono-material makes the mechanical recycling process simpler. We should always him to design garments in a single material type.

✓

Keeping garmen al makes the che process simpler. aim to design ga material type.

COLOUR



his technology works best with ingle coloured textiles because plour is retained in the recycling rocess. Textiles are sorted into omogenous colours and shades. If any different colours in one garment make recycling complicated.



The colour of the textile doesn't matter as much for these processes as colour is either distroyed during or removed before the recycling process. All technologies are different and have different requirements.

DISASSEMBLY

Designing for disassembly is a method used to optimise the recycling process and remove problematic elements.

Remember, the process of separating and removing elements is still often done by hand. This takes a lot of time, and the cost of labour is expensive. Consider which trims and materials that are necessary for your design.

STRATEGY

TRIMS

Products with no trims are more desirable by recyclers but not always practical.

There are many different types of trims: some can be removed by the recyclers while others are trickier to remove and thus considered non-removable. See graph below.

LAYERS

Multi-layer garments can be problematic to recycle. If the layers are made of the same fibre type (using the mono-material strategy) the garment can easily be recycled. If the layers are made of many different types of fibres, they would most likely have to be separated before recycling (also undesirable for recyclers). This is costly and time-consuming.

Low value	TRIMS			High value	
NON-REMOVABLE TRIMS		REMOVABLE TRIMS		NO TRIMS	
Elastic String Ribbon	Beadwork Inset / Yoke* Print	Zipper Button Rivet	Carabiner Underwire (Bra) Charm		
Patch Pompom* Embroidery* Pocket*	Sequins * if different from main garment fibre type	Eyelet Hook & Eye/Bar Buckle Snap Button	Reflective Strip Epaulette Collar Support		



