

https://www.proficio-faber.org/fashion-circular-design-resource

# INSPIRATIO



what they...

**ERDOS** 

Durable, 'timeless'

products in small

collections: klee klee

fashion label defined by its

minimalist aesthetic and.

klee klee, is a Shanghai-based

### The social fashion rental Empowering customers app: By Rotation to care for their wardrobes: Clothes A peer-to-peer fashion rental Doctor

platform encouraging users to rent what they need and lend Clothes Doctor offers a range of



### Enabling cashmere to be used for longer:

The ERDOS Group advocates the circular economy model to avoid wasting cashmere.



### Making circular business models more accessible: Lizee

Lizee is a software as a service (SaaS) company that allows brands and retailers to launch





and excess materials into new

products with higher value.

Garments to be

experienced by many,

owned by none: GANNI

Danish fashion brand GANNI,

remakes and rents garments to

keep their designs at their

Social peer-to-peer

marketplace: Depop

Originally designed as a social

network for creatives to share

and sell their products, Depop...

### Designing with existing Rental subscription materials: Looptworks service for timeless products: Ralph Lauren Looptworks repurposes used

Ralph Lauren is exploring a circular business model with a rental subscription service.



### A digital-only, multibrand fashion platform: DRESSX

DRESSX is an international digital fashion multi-brand



### Clothing rental for users and retailers: Hirestreet

With more than one million site outfits by the thousands



### keep clothes in use: Tommy Hilfiger

The app making

clothing alterations and

Sojo is a mobile application that

alterations and repairs as easy.

repairs mainstream:

seeks to make clothing

circular business model from Tommy Hilfiger.



Clothing does not need

to be physical to exist:



Tommy for Life is a pioneering



### Online market and community for fashion items and more: Vinted

Vinted is a peer-to-peer marketplace and community for second-hand fashion.



### Platform providing aftercare for fashion: The Restory

Initially launched to provide on-demand aftercare directly to consumers, The Restory has



secondhand clothes.

Keeping clothing in use

thredUP has created a smarter

and easier way to buy and sell

to reduce waste:

thredUP

### A peer-2-peer resale platform for fashion:

Vestiaire Collective Putting items we no longer wear or use back into circulation.



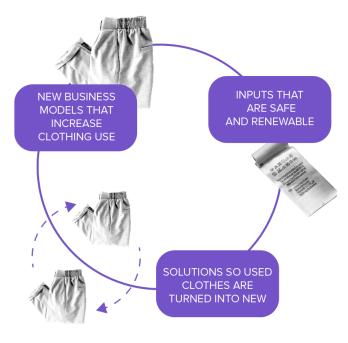
The Renewal Workshop's aim is to keep clothes in use, eliminate the concept of waste and recover...

### A journey to becoming 100% circular & climate positive: H&M Group

How H&M Group is progressing towards a circular economy in fashion

CIRCULAR
FASHION
DESIGN
ECONOMY









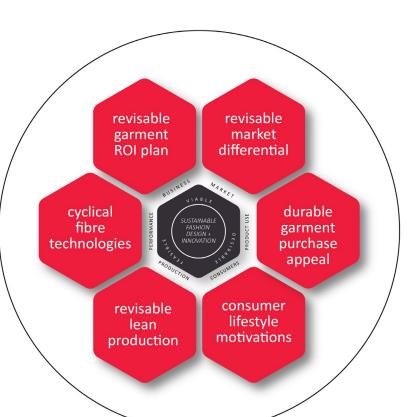


# 360-degrees FULL SURROUND SUSTAINABILITY

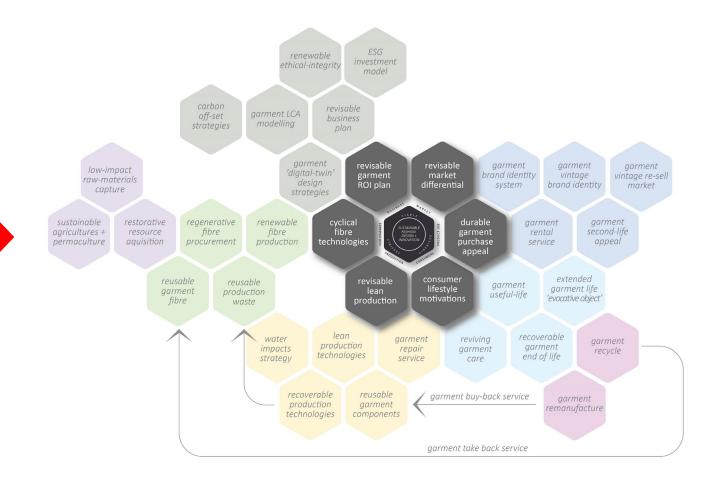




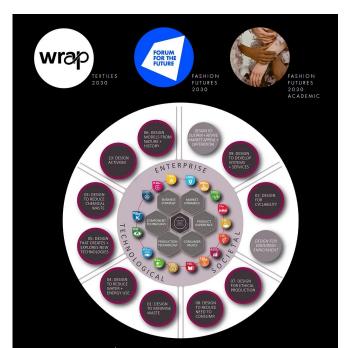


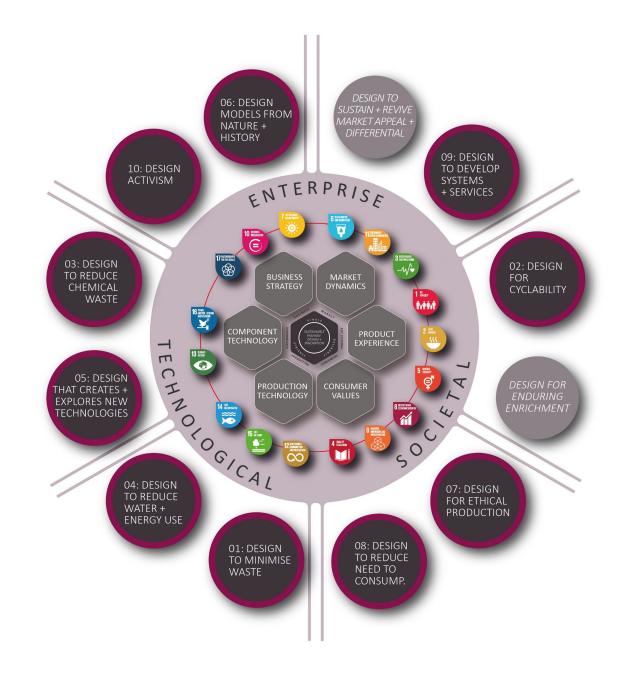


# USEFUL-USABLE SUSTAINABLE FASHION DESIGN TOOLS



# USEFUL-USABLE SUSTAINABLE FASHION DESIGN TOOLS





# 7 questions on Sustainable Fashion Design

01: WHY IS SUSTAINABLITY AN ISSUE FOR FASHION DESIGNERS?

02: WHEN DOES SUSTAINABLE CHANGE NEED BE ACHIEVED ?

03:WHAT IS THE INDUSTRY CHANGING TO BECOME SUSTAINABLE?

04: HOW TO DESIGN FOR SUSTAINABILITY?

05: WHERE ARE THE *DIFFERENCES* IN A SUSTAINABLE GARMENT?

06: WHO ARE THE *INDUSTRY LEADERS* IN SUSTAINABILITY?

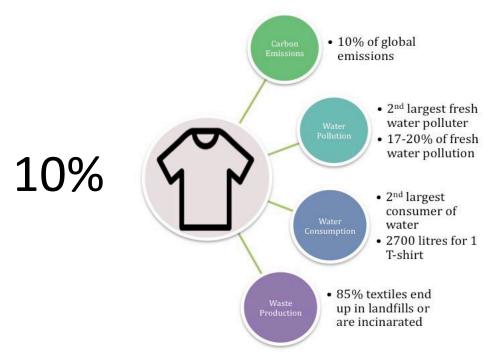
07: WHICH ASPECTS OF SUSTAINABILITY IS APPLICABLE TO A CLIENT PROJECT?

# 01: WHY IS SUSTAINABLITY AN ISSUE FOR FASHION DESIGNERS?

# 01:1 Blue Marble – scaling and accelerating degradation

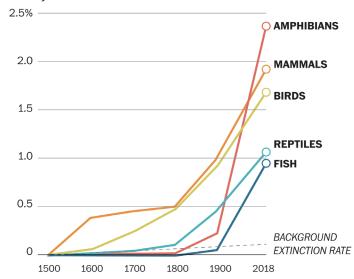


Nature in Freefall – how fashion contributes to Bio Diversity Loss

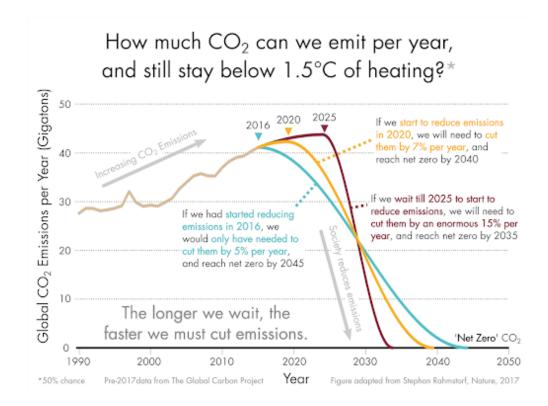


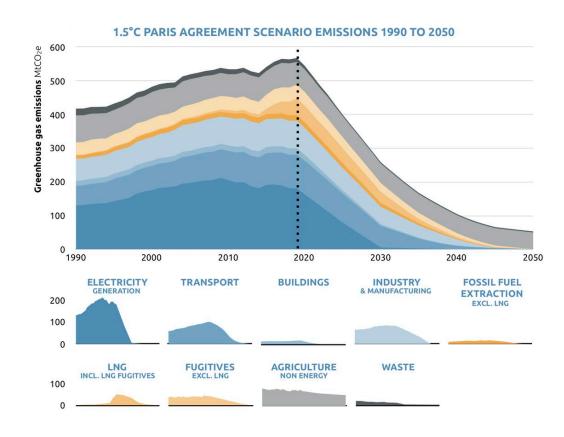
## A manmade catastrophe

Cumulative percent of vertebrate species driven to extinction by human activity



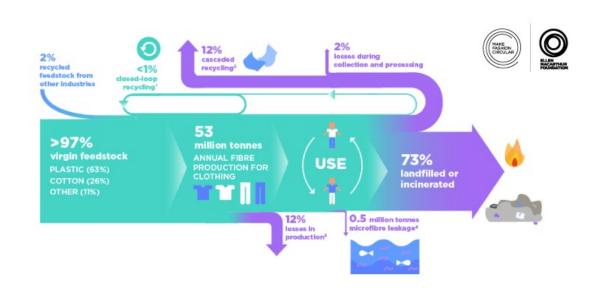
# 01:2 Zero by Carbon 2050

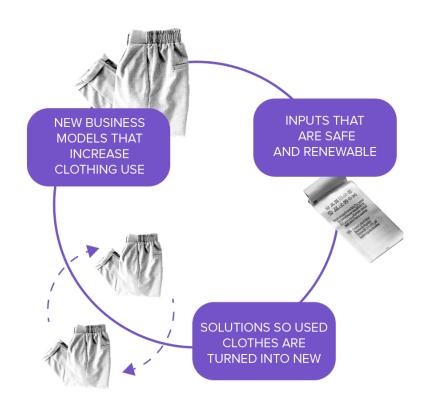




How the fashion industry can urgently act to reduce its greenhouse gas emission

# 01:3 Fashion Industry is fast moving on resolving big problems







RENEWABLE RESOURCES
INCREASE CLOTHING USE
TURNING 'USED' INTO 'NEW

# 02: WHEN DOES SUSTAINABLE CHANGE NEED BE ACHIEVED?

# 02:1 Fashion Industry Targets



# Fashioning a beautiful future?

Supporting workers and addressing labour exploitation in Leicester's textile and garment industry

Rights Lab, University of Nottingham School of Law, De Montfort University, Leicester

April 2022

# 02:2 UN ALLIANCE – for sustainable Fashion

























HOME

MEMBERS ▼

**EVENTS** 

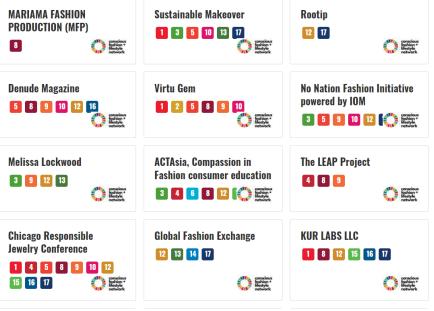
**NEWS** 



# 02:3 UN SDG'S – sustainable Fashion Edition

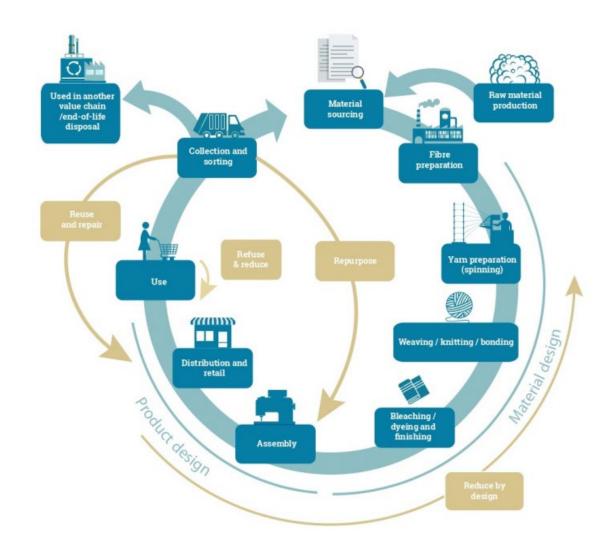
**Department of Economic and Social Affairs** 





# 03:WHAT IS CHANGING IN THE INDUSTRY TO BECOME SUSTIANABLE?

# eliminate recirculate regenerate



# 03:2 Ellen Macarthur Circular Fashion mission

New business models that increase clothing use

Safe and renewable inputs

Solutions so used clothes are turned into new







Today, there are four main business models that circulate products and materials in the economy

Rental 

Resale 

Repair 

Remaking 

V



# 03:3 Generic attributes of Sustainable Fashion

## SUSTAINABLE FABRIC ATTRIBUTES

Little or No Chemicals

Cause Less Waste

Use Less Water

Made With Love

Don't Harm Animals

Durable

**Emotionally Durable** 

Harmless to the Body

Reusable / Recyclable / Reclaimed

Fixable

Biodegradable

Characteristic	Example Fabrics		
Characteristic	example Patrics		
Certified and/or Responsible Sources	Organic algaca wool Organic rayon (check for Eucalyptus!) Organic cotton (GOTS certified) Organic clinen Recycled PET (Polyester) Recycled denim Leaf-leather, pihatex and cork		
Little or No Chemicals	Organic cotton with baby alpaca Certified wool Organic rayon Oeko-tex certified linen Cork leather		
Cause Less Waste	Fabrics that take dye well: alpaca wool, rayon, silk or cotton Fabrics that are naturally wind-resistan wool (from alpaca, merino, qivilut, yak) Fabrics that are naturally water-resistant: wool (most types)		
Use Less Water	Organic linen Recycled polyester Alpaca wool Hemp		
Made With Love	Alpaca wool Organic wool Organic cotton Organic citon Organic linen Super exclusive wool fibers like yak, qiviut, vicufia and cashmere Anything from tiny brands that go for quality over quantity (hemp, cork)		
Don't Harm Animals	Alpaca wool Organic sheep wool Organic merino wool Yak wool Qiviut wool Organic cashmere (hand combed) Camel wool		
Durable	Linen Alpaca wool Bison down Qiviut Hemp Bamboo		
Emotionally Durable	Different types of wool Alpaca wool Merino wool Slik Linen Cotton		
Harmless to the Body	(Baby) alpaca Yak Qiviut Cashmere Merino Vicuita Organic hemp Organic (undyed) silk Organic (undyed) cotton Organic from (natural earthy colors)		
Reusable / Recyclable / Reclaimed	Wool – any type Recycled polyester Recycled denim Recycled nylon Reclaimed cotton Reclaimed wool		
Fixable	Woven fabrics (linen, cotton) Knitted fabrics Cashmere		
Biodegradable	Wool – all types, from merino to alpaca and yak to qiviut (when undyed) Linen Cotton Hemp Silk (when undyed		

### SUSTAINABLE GARMENT ATTRIBUTES

Organic, natural, biodegradable fabrics

Recycled clothing or repurposed materials

Non-toxic dyes

Zero waste pattern cutting methods

Plastic-free packaging

Traditional or community craftsmanship techniques

Slow fashion models

- seasonless, timeless pieces and limited collections

Circular economy models like rental or closed-loop recycling

Vintage / thrifting and buying second hand



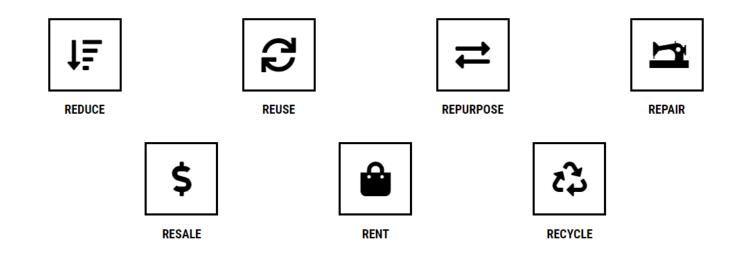


# 04: HOW TO DESIGN FOR SUSTAINABILITY

# 04:1 The 7 R's of Fashion Design

# THE 7Rs OF FASHION

There are many ways to reduce your fashion footprint, beyond the 3R's of Reduce, Reuse, Recycle.



# 04:2 Design Tool Kits

This stretepy is about how much teatile designers can find inspiration and information for future sustainable design from studying and reflecting upon noture as well as statelles, habits and societies of the past. How can the practices of the past and models from the natural world inform teatile design and production of the future? Seek design inspiration, information and solutions from studying the teatiles, shabits and societies of the past and from nature including blo-mini-

Examples: shape-memory polymers to mimic natural movement; 'lotus effect' nano-coatings; Velcro; austerity repair; make-do-and-mend; D.I.Y / punk customization; modern nomads; historic dualing / relating techniques

In this final strategy we encourage designers to leave behind the product and work creatively with the consumers and society or large. It is about designing events and communication with the consumers and society or large. It is about designing events and communication events are also all reports of fashion and teatiles. Here, the testile designer becomes a "Social Immostor" We reflect on how much has changed for testile designers, and how much be presented for the first testile designers, and how much be presented for the first testile designers, and how much incommunication strategies with consumers and society of large? The testile designer becomes a "social immostor" using design skills to mere social needs. It includes designing events and communication strategies to increase consumer and designer knowledge about the environmental and

Examples: publications; blogs; open-source networks; exhibitions; conferences; festivals; social media: manifestas.

How can the use of harmful chemicals at every stage in the life of the product be reduced by design? Select the most appropriate material and processes for any product to minimise environmental impacts.

Examples: seek organically produced materials; use mechanical technology to create non-chemical decorative surface pattern; create effects to replace materials and processes known to be harmful.

Replacing systems of production with less energy consuming and smarter technologies to reduce environmental impacts. How can technology be used to make more sustainable textiles?

Design for new technologies to save energy and materials. Reduce environmental damage in the production of yarn and fibre, the construction of fabrics, dyeing and finishing of products.

Examples: bio-based materials and processes; 3-D printing; laser; water-jet; sonic cutting; sonic welding; digital printing, 're-surfacing' of polyester; novel dyeing techniques; digital finishing; taaaina.

Energy consumption and water usage in the textile industry are extremely high and occur at each stage of the lifecycle of textiles—at the production stage, in the use phase (where consumers use and are for textiles and garments) and at the end stage (which covers either disposal and/or re use of the material.

How to conserve water in the production and use of textile products? Evaluate the ways water and energy are consumed in the processing of textiles. Assess the carbon footprint, particularly in consumer laundry.

Examples: In the production phase: exhaust printing and dyeing; dry patterning systems; air-dyeing; distributed manufacture. In the use phase: design for no / low launder; 'short life' textiles; technical coatings to reduce washing; innovative and informative labeling; localisation; natural energy systems.

How to upcycle existing garments and how to design with virgin materials, in anticipation of future recycling? The initial design process anticipates the potential for eventual recycling and re-purposing of the textile product. Also existing garments or products considered as 'raw materials', ready for added value to be applied.

Examples: this strategy includes design for recycling, upcycling, design for mono materiality and design for disassembly for the closed-loop systems of the future. Think re-useable /non-invasive installation or renewal.

06: DESIGN MODELS FRO ENTTERPRISE 03: DESIGN TO REDUCE CHEMICAL SUSTAINABLE FASHION ш 0 13 lili INNOVATION 工 2 OLOGICAL 04: DESIGN

This strategy introduces the concept of designing systems and services instead of, or to support, products, e.g. kause, share, repoir. How can designered selverio but concept of designing services that replace or support products? Employ a design strategy for multi-functional products and materials conservation via temporary and non-invasive installations. Encourage repair. Facilitate on-line/ local communities of produce-consumers.

Examples: lease; share; repair; experience design; user-centered methods to design services; collaborative online / local communities, transition towns.

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This is about design that utilises and invests in traditional crigit stills in the UK and abroad. It is bout ethical production which support and volutes verkers relight, and the sourcing offer trade materials. It questions what ethical production means, and how it differs for each scale of production and manipatture. How con design encourage ethical production, that supports and values people and stills? Designers can engage with communities, either in the supply chain or for local needs.

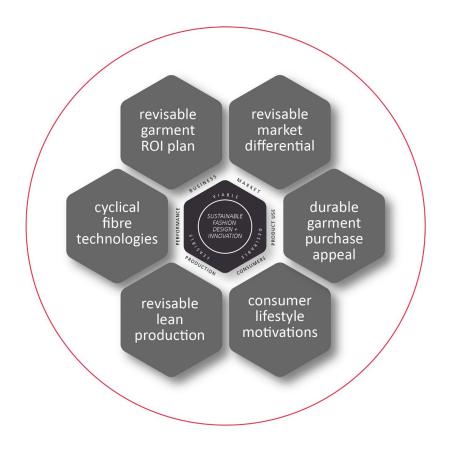
Examples: sourcing fair trade materials; engaging suppliers who abide by codes of conduct; vertical supply chains; consideration of local resources; designers acting as facilitators of sustainable enterprise in communities.

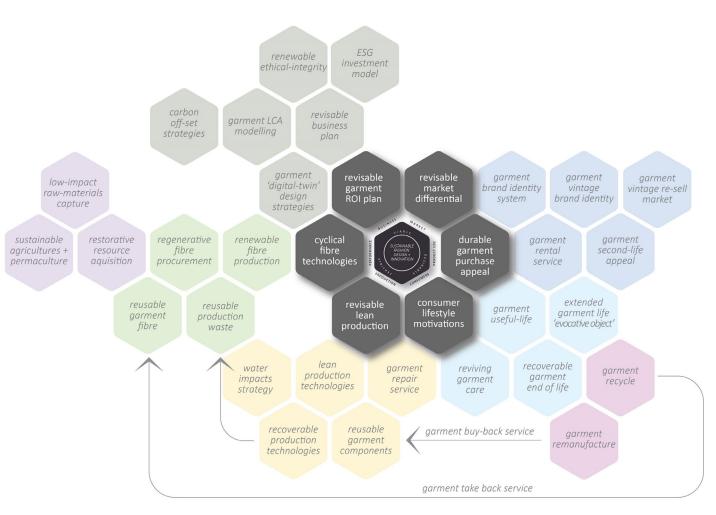
This strategy is about making stiff that fasts, stiff that we really want and want to keep and look offee, and the design and production of lestiles and products of which adopt and damage with age. This strategy is also about exploring afternative forms of design and consumption such as co-design and colinoportive consumption. New can designate make stiff that fasts, that people improve with age. Encurage replacement of shapping with creative social experiences; the customisation of clothing and estables. Let It culture.

Examples: emotionally durable design; slow design; consumer participation in co-design and collaborative consumption, crowd sourcing and social networks; apps for bespoke information

# FASHION SUSTANABILITY DESIGN TOOLKIT

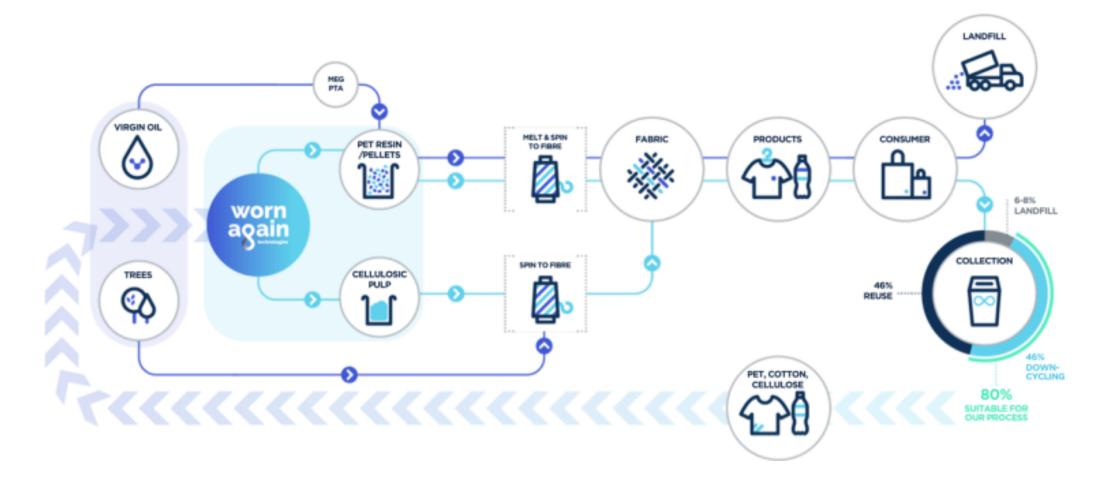
# 04:3 Prioritisation of design change





# 05: WHERE ARE THE DIFFERENCES IN A SUSTAINABLE GARMENT

# 05:1 Design for **PRODUCT LIFE MANAGEMENT**



# 05:2 Productive Sustainability HOTSPOTS in the product production + garment use process



Cultivation and extraction of raw materials from the earth, plants, or animals.

**EXTRACTION** 



TIER 3

# RAW MATERIAL PROCESSING

Processing of raw materials into yarn and other intermediate products.



TIER 2

# MATERIAL PRODUCTION

Production and finishing of materials (e.g. fabric, trims) that go directly into finished product.



TIER 1

# FINISHED PRODUCTION ASSEMBLY

Assembly and manufacturing of final products.



TIER o

## OFFICE, RETAIL, DISTRIBUTION CENTERS

Corporate real-estate not involved in production process.



extended use delivers multiple reductions

# 05:3 Fashion Product LCA – labelling / monitoring / reporting / anti-greenwashing

## FROM: POTENTIAL SAVINGS... Reduced agricultural inputs: i.e. mineral fertilizer, pesticides, tractor operations & irrigation. **GLOBAL WARMING** Reduced field emissions from **→** 70% fertilizer. ACIDIFICATION OF LAND & WATER Reduced energy use. Reduced nitrogen & phosphorous deposit into water. **↓** 26% Increased soil protection measures in **OVER** organic agriculture preventing soil erosion. **FERTILIZATION →** 91% Less irrigation. CONSUMPTION Savings from production of fertilizer. **↓** 62% Less energy used. **ENERGY USE FURTHERMORE ORGANIC COTTON ENSURES:** NO USE OF NO USE OF TOXIC CHEMICALS



# 06: WHO ARE THE INDUSTRY LEADERS IN SUSTAINABILITY

# 06:1 *Industry sustainability mentors*

































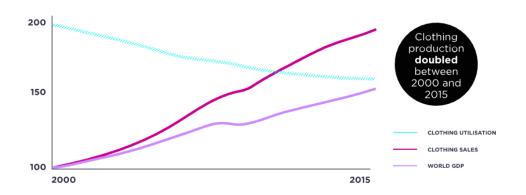
+ EIGHT SUSTAINABILITY PRIORITIES FOR THE FASHION INDUSTRY - GFA

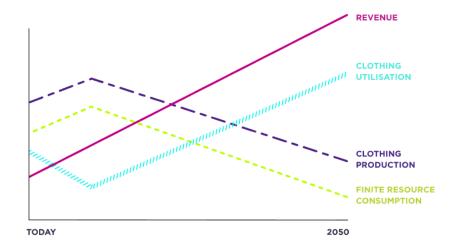


GLOBAL FASHION AGENDA 'ADVISORY' PUBLICATIONS



# 06:2 Ellen-Macarthur inventory of sustainable practitioners





CIRCULAR FASHION BUSINESS MODELS PRACTITIONERS



### app: By Rotation

A peer-to-peer fashion rental rent what they need and lend



### to care for their wardrobes: Clothes Doctor

Clothes Doctor offers a range of products and services to empower its customers to alter





marketplace: Depop



Originally designed as a social network for creatives to share and sell their products, Depop...



The ERDOS Group advocates avoid wasting cashmere.

**Enabling cashmere to** 

be used for longer:

**ERDOS** 



shoppers to choose better: FARFETCH

owned luxury, having partnered with its first pre-owned boutique in.



Garments to be owned by none: GANNI

Danish fashion brand GANNI, keep their designs at their highest value.



### experienced by many,

remakes and rents garments to



A digital-only, multi-

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DRESSX

brand fashion platform:

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rental subscription service.

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products: Ralph Lauren Ralph Lauren is exploring a circular business model with a



### The app making clothing alterations and repairs mainstream:

Sojo is a mobile application that seeks to make clothing



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### Platform providing aftercare for fashion: The Restory

Initially launched to provide on-demand aftercare directly to consumers, The Restory has evolved



### Keeping clothing in use to reduce waste: thredUP

thredUP has created a smarter and easier way to buy and sell secondhand clothes.



### Seeking solutions to keep clothes in use: Tommy Hilfiger

Tommy for Life is a pioneering circular business model from Tommy Hilfiger.



### Online market and community for fashion items and more: Vinted

Vinted is a peer-to-peer marketplace and community for second-hand fashion.





### A peer-2-peer resale platform for fashion: **Vestiaire Collective**

Putting items we no longer wear or use back into circulation.



### Capturing value from unsellable inventory: The Renewal Workshop

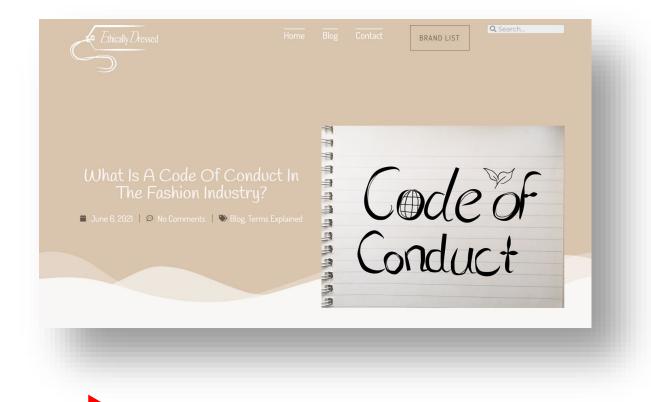
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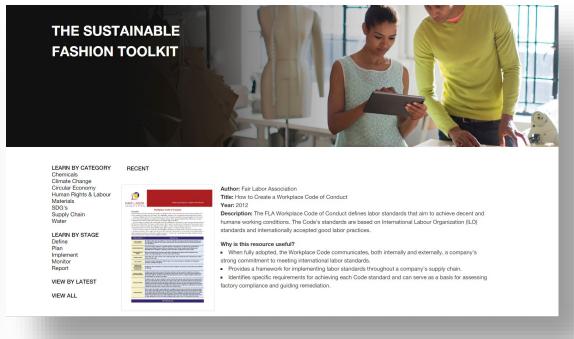


A journey to becoming 100% circular & climate positive: H&M Group

How H&M Group is progressing towards a circular economy in

# 06:3 Developing Personal codes of Sustainable Practice





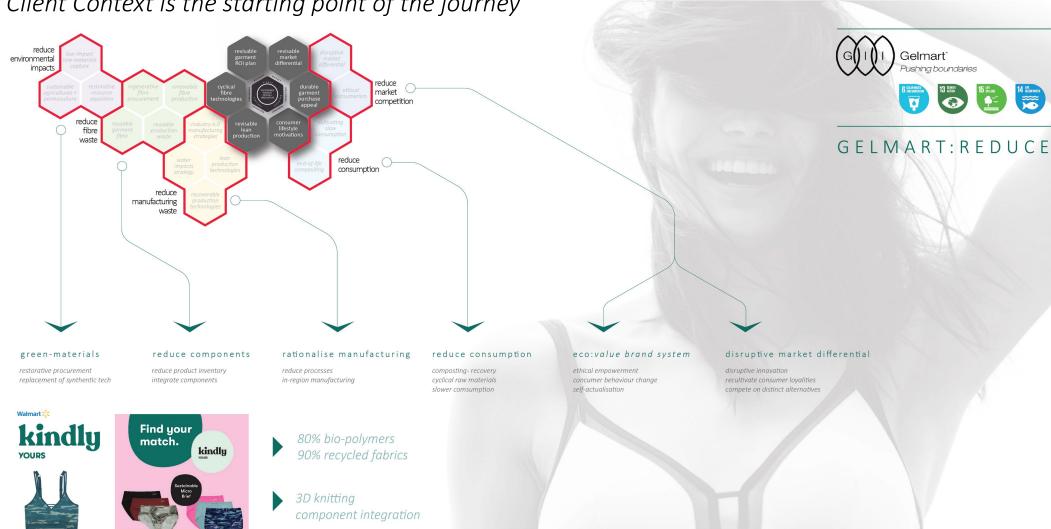
CODES OF PRACTICE – FASHION SUSTAINABILITY

# 07: WHICH ASPECTS OF SUSTAINABILITY CAN BE APPLIED TO CLIENT PROJECTS

# 07:1 Client Context is the starting point of the journey

wear kindly

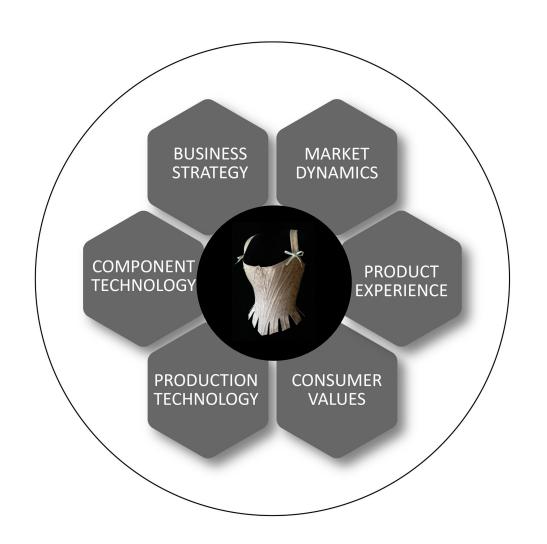
democratizng sustainability function, planet, or price

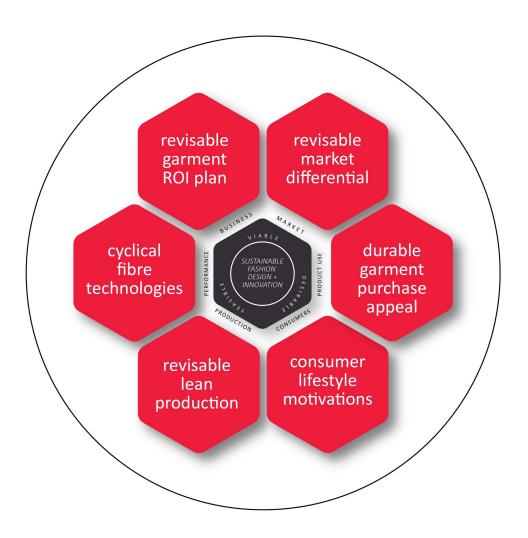


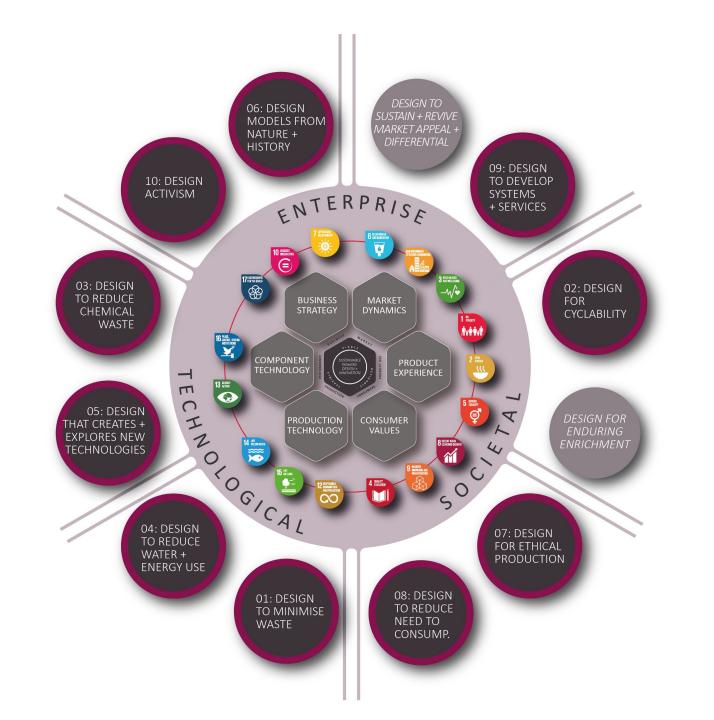
# 07:2 Roadmap to 100% sustainability – creating a before and after 'systemic change'

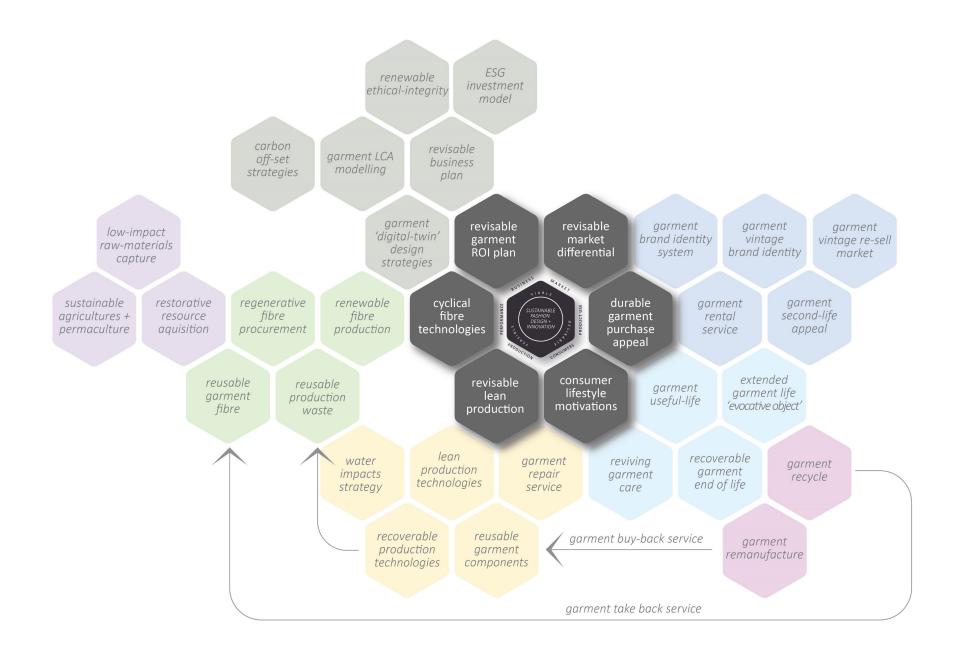


# 07:3 Design Intent + Project Rationale for Sustainable Design





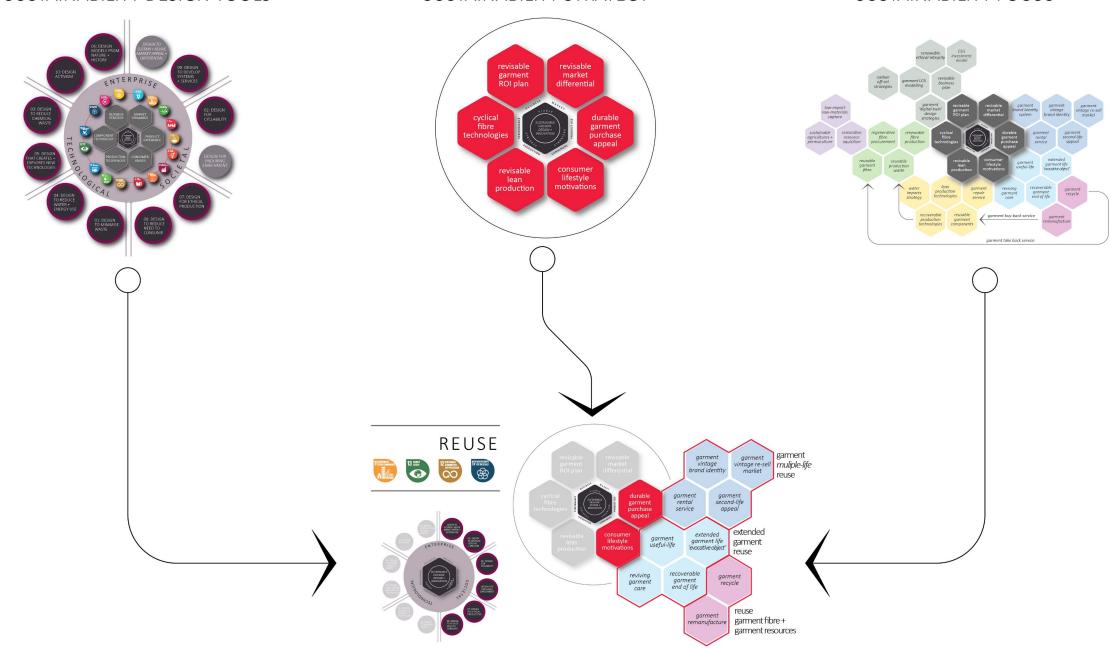




## SUSTAINABILITY DESIGN TOOLS

## SUSTAINABILITY STRATEGY

## SUSTAINABILITY FOCUS



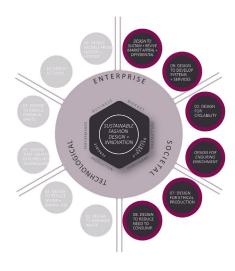
# REUSE

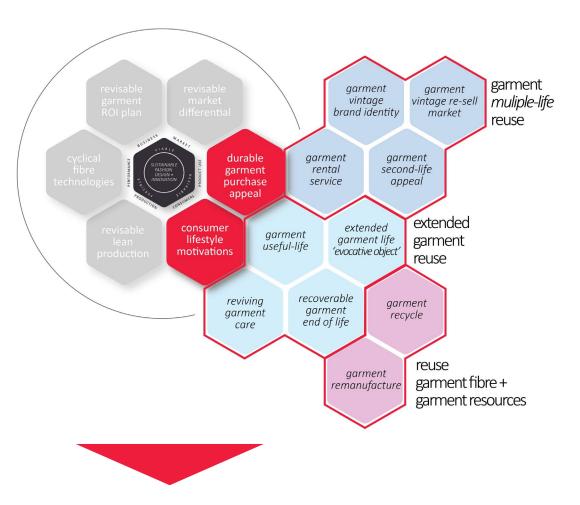




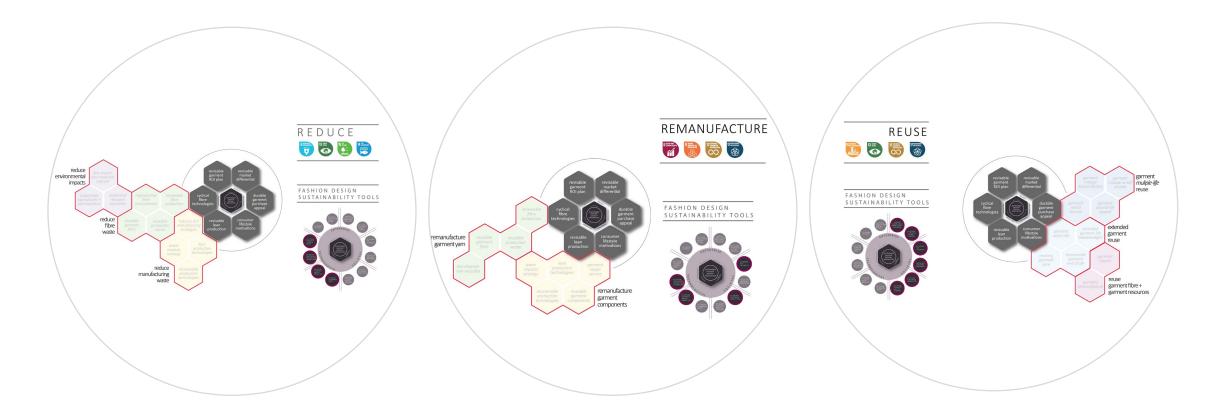








DESIGN AGENDA – specific project brief interpretation









# Today, there are four main business models that circulate products and materials in the economy

Rental	~
Resale	~
Repair	~
Remaking	~

# SUSTAINBILITY PRINCIPLES + ISSUES CONCEPTS OF PRACTICE

# DESIGN PRACTICE + **INDUSTRY CONTEXTS**

# **HOW TO RESOURCES**

SUSTAINBILITY	PRINCIPLES +	DESIGN PRACTICE +	HOW TO RESOURCES	
ISSUES	CONCEPTS OF PRACTICE	INDUSTRY CONTEXTS	11011 10 1120	
WHY – change to sustainable design - 21-C realities and professional / commercial motivations	Imperatives, Ethics + Benefits	Imperatives, Ethics + Benefits	TO NET ZERO	the La
WHEN – is the target to achieve progress toward sustainability - 2030 timeline new graduate early career context	Fashion Industry Sustainability Policy + Targets	Industry Standards Targets for systemic change UN SDG's	UN ALLIANCE FOS 1, 5°5 VAE. E FASHION	
<b>WHAT</b> – is the Fashion Circular economy versus Linear economy	Circular v Linear	Comparison + illustration of the circular design + industry		To the second se
<b>HOW</b> – to design for 7 key attributes of Sustainable Fash- ion - sustainable design methodologies - SDGs	7 R's of fashion design	what are the '7' illusrated by company exemplars - linked to design tools	THE 78s OF FASHION	
WHERE – in the fashion design process is sustainability addressed, developed and created	Sustainable Fashion Design LCA	Sustainablity hot-spots in the life of a fashion product	\$ \begin{align*} \beg	25252 2
WHO — is delivering best sustainable fashion practice - company case studies and business models for sustainable fashion	Sustainable Fashion Circular Business Models	Ellen-Macarthur Circulor Business Models Fashion Industry Case studies		Medianom included in management from the control of
WHICH - design for sustainability opportunities can a 'client' address - LOUNGE	Client / Company mentoring design for sustainability	Client / Company mentoring design for sustainability	PORG PARACON	



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